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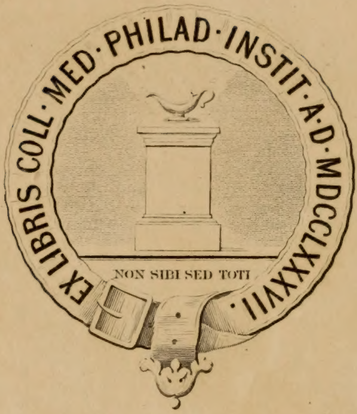

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THE
CINCINNATI
MEDICAL NEWS.

J. A. THACKER, M. D., Editor.

ASSOCIATE EDITORS,

D. D. BRAMBLE, M. D. A. J. MILES, M. D.

R. C. S. REED, M. D.

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Original Contributions.

CASE OF EMPYEMA

In a child five years of age, with discharge of pus externally and through the diaphragm.

By THEO. M. WITTKAMP, M. D., of Cincinnati.

George G. aged 5; born in Cincinnati; parents alive and in good health. The child has been sickly from his birth. Last spring he was taken with a severe pain in the side, and high fever; he was under the care of another physician at the time, and the inference is that the attack was one of acute pleuritis. I first saw the patient on the 27th of October. He was much emaciated; had a sallow hue of the skin, and in his walk he leaned perceptibly to the right side; pulse 100 and weak; appetite poor; bowels regular; tongue dry and glazed. He complains of severe pain in the right side below the nipple, and he has a hurried respiration. The decubitus is on the right side, and there is much increase of the dyspnœa when the patient is placed on the left side or on the back. Inspection reveals a circumscribed swelling on the right side, extending from the nipple to the eighth rib; the movement of respiration is absent in the right side; percussion shows dullness over the entire right side both anteriorly and posteriorly; on the left side there is dullness extending to the nipple, with resonance somewhat tympanitic above this point. There is entire absence of respiratory murmur over the regions of dullness. The liver is displaced downwards, and the abdomen is tympanitic. Ordered poultice to the swelling on the side; internally, quiniæ sulphatis gr. j. every three hours.

Oct. 28. Prof. Miles called in consultation. Swelling unchanged; patient able to be about the room although suffering severely from pain in the right side. Ordered tinct. iodini to tumor, and continued the quiniæ sulphat.

Oct. 30. Swelling considerably larger and softer.

Nov. 2. Fluctuation well marked; an ordinary bistoury was entered into the most prominent part of the tumor, *i. e.*, between the seventh and eighth ribs, and about a pint of fetid pus discharged. During the evacuation of the contents of the tumor the patient was seized with a severe fit of dyspnœa accompanied by a violent cough, the latter greatly

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aiding in the discharge of the pus. Ordered brandy and carbonate of ammonia; poultice to abscess.

Nov. 3. Patient much better and breathing easier; brandy and carbonate of ammonia continued.

Nov. 4. Abscess discharging a thin sanious offensive pus. Patient able to walk about the room; ordered quiniæ sulphatis gr. j. every three hours.

Nov. 8. Abscess still discharging.

Nov. 15. Sent for in haste. Found patient with temperature 102.5°, pulse 120, watery eyes, severe cough, and full crop of measles on his body. Order R. syr. ipecac, syr. scillæ, syr. tol. aa ℥ j. M. Sig. teaspoonful every thee hours.

Nov. 19. Measles disappearing; cough not so distressing; abscess still discharging. Complains of pain in bowels and has diarrhea. Ordered R. tinct. opii camph. ʒ j. mist. creta ℥ ij. M. Sig. ʒ j. every three hours.

Nov. 20. Ordered brandy ʒ j every three hours, and abscess to be again poulticed.

Nov. 25. Great pain at the point where the abscess was opened, poultice continued; ordered pulv. Dover gr. j. every three hours.

Nov. 27. Was called to the patient this evening; found him with temperature of 104°, pulse 140, screaming with pain in his bowels; abdomen tympanitic; has had slight diarrhea during the afternoon. Ordered R. pulv. opii gr. ij. bismuth subnit. ʒ j. M. Ft. chart No. 8. Sig. one every three hours.

Nov. 28. Condition not improved.

Nov. 29. Ordered warm fomentations to abdomen.

Nov. 30. Bowels constipated, pain in abdomen not so intense; ordered R. tinct. opii. camphorat ʒ j, syr. zingibar ℥ ss., spts. vini gallici ℥ ss. M. Sig. ʒ j. every two hours.

Dec. 2. Patient refuses all medicine; gave him brandy and beef tea.

Dec. 3. Pulse 160, temperature 105.2°. Patient rapidly failing.

Dec. 4. Died this morning at 7 o'clock.

Post Mortem twenty-seven hours after death. Present Prof. Miles, Mr. Rothacker, and the writer. On opening the right side of the chest we found about one ounce of pus in the pleural cavity. The parts about the opening in the abscess presented a sloughy appearance. There was found besides the external opening an opening in the diaphragm through which a probe could be passed and be brought into contact with the upper surface of the liver. On opening the abdomonial cavity it was found that the pus had gravitated from the fistula in the diaphragm down over the upper surface of the liver, over the intestines, and about half a pint was collected in the pelvic cavity. There were everywhere in the abdomen signs of intense peritonitis, the intestines being adherent to one another and covered with lymph. The right lung was compressed into a firm mass against the spinal column, and on section presented the solid appearance of muscle. The pericardium contained four ounces of turbid serum. The left pleural cavity contained ten ounces of pleuritic effusion; the kidneys were normal. The brain was not examined.

Remarks.—Empyema in children is a more common affection than is generally supposed. The termination of the disease is usually by an external opening, a permanent fistula remaining; the pus may, however, be discharged by the bronchial tubes, and it rarely happens that it is absorbed. The case above reported is remarkable from the fact that there were two points of discharge, one externally and the other through the diaphragm. The discharge of an empyema through the diaphragm is a very rare termination. We have consulted a number of works on the subject, and find that only two authors, viz : Niemeyer and Loomis mention the possibility of pus discharging in this direction.

SALICYLIC ACID—THE NEW ANTISEPTIC.

Translated from the Handbuch der Pharmaceutischen Praxis Hager—1875, by C. R. STUNTZ, A. M., Prof. of Chemistry in Cincinnati College of Medicine and Surgery. Acidum Salicylicum, Acidum Spiricum, (Ger. Salicylsaure.)

This acid, which exists in the free state in the flowers of Spiracal, Ulmaria L. and also as Methyl Salicylic acid in the ethereal oil of Gaultheria procumbeus, Linn., now is manufactured (according to Kolbe) from sodic carbolate (NaC_6H_5O) by heating it in a stream of carbonic acid gas (CO_2). Formerly it was made in small amounts from salicine or indigo blue by heating them with caustic potash.

The first operation in the manufacture of salicylic acid is the preparation of dry sodic carbolate, (NaC_6H_5O). Concentrated costic soda lye ($HNaO$) is saturated with phenol (HC_6H_5O) by using one equivalent of each, and the liquid compound is brought into a shallow iron kettle to be dried. The mass, which becomes tough and doughlike, is broken and stirred regularly until by heat and subsequent grinding in a mortar it is reduced to a fine powder. This dry sodic carbolate, well protected from damp air, is brought into a retort fixed in an oil bath, and then is heated slowly. When the temperature reaches about 100° C. a stream of dry carbonic acid gas (CO_2) not too rapidly is passed through the retort, and the temperature is raised very slowly, so that after several hours it reaches only about 180° C. At last the temperature is raised from 220° C. to 250° C. The operation is ended when at this temperature no more phenol gives over.

The residuum in the retort is a grayish appearing substance, and consists of sodic carbonate (Na_2CO_3), soda (NaO) and sodic salicylate (basic sodic salicylate $Na_2C_7H_4O_3$). It is dissolved in water and decomposed by dilute muriatic acid. The precipitated $C_7H_6O_3$ is collected in a pointed bag filter, pressed through, dissolved in hot water, decolorized by animal charcoal, and recrystalized until pure. The salcylic acid produced is about 40 per cent. of the weight of the phenol

PROPERTIES.—Salicylic acid of commerce is a loose white crystaline powder, or a loose mass, small, fine colorless; or paint yellowish white crystaline needles, which react as an acid, melt at 151° C. and again solidify at 157° C.; sublime on heating cautiously, but by heating quickly break up into HC_6H_5O&CO_2.

It dissolves in 700 parts by weight of cold water, in 8 parts of boiling water, alcohol or ether, and in 80 parts of chloroform. It is very soluble in bisulphide of carbon, and it dissolves in five parts of boiling spirits of turpentine.

Salicylic acid gives with ferric chloride a dark purple color. From silver nitrate solution there is no reaction, and from potassio-cupric solution there is no precipitate except at the heat of boiling, but it reduces permanganate of potassa solution instantly. It unites with bases forming neutral salts which crystalize well in the main. The purity of salicylic acid is manifested by its slight solubility in cold water; the ease with which it completely dissolves in alcohol; and by the behavior of the dry acid upon gentle and cautious heating in a beaker glass. The acid begins even before melting to sublime in beautiful needles, bearing a dark gray residuum, (pure-acid when sublimed leaves no residuum.) The saturated alcoholic solution when diluted with water precipitates the acid as a voluminous magma of white form, which, brought under the microscope, is seen to be composed of the characteristic needle shaped crystals.

Salicylic acid is not a poisonous substance, but belongs in the class of powerfully acting drugs so that it must be kept separate.

USES.—Salicylic acid is a means of checking corruption and fermentation, and is not poisonous like carbolic acid, but rivals it in antiseptic action. Comparative experiment shows that its antiseptic action does not extend so far as that of carbolic acid, and that it is to be rated only one third as high. For the preservation of meat and other eatables, milk, etc., a solutio salicylica recommends itself of one part salicylic acid in twenty parts spirits 45 per cent. alcohol, with which meat to be preserved is painted, and from which a teaspoonful to the litre of milk is used to preserve it from curdling for a couple of days. Most important of all, as an internal and external remedy, three parts of salicylic acid everywhere replace one part of carbolic acid.

Inwardly there is given 1 gr. to 2 grs. to 3 grs. once in three hours. The strongest entire dose for the day is up to 25 grs.

Salicylic acid appears not to be absorbed by the skin from the aqueous or alcoholic solution. It is best given inwardly in emulsion or in pills—not in powder, since in this form it corrodes the mucous membrane of the mouth and throat. In tooth powder or mouth wash from .5 to 1. and 1.5 are taken to 100 of substance.

Emulsio salicylica—Wunderlich.

℞ Acidi Salicylici 1 gr.
Olei Amygdalarum 20 grs.
Gummi Arabici 10 grs.
Aquæ Aurantii Floruni 25 grs.
Syrupi Amygdalarum 45 grs. M. F. Emulsio.

S. One tablespoonful twice in three hours.

UROCYSTIC AND URETHRAL DISEASES OF WOMEN.

By ALEX. J. C. SKENE, M. D., Professor of Gynæcology in the Long Island College Hospital, Brooklyn, N. Y.

GENTLEMEN:—Progress in the study of pathology enables us to understand more fully the various changes of structure which give rise to deranged action on the part of the various organs of the body, and therefore we have more *organic* diseases on our present list, and fewer *functional* disorders.

The rule has been to call any trouble a functional disease when we could discover no change of structure in the case. On the other hand, improved means of investigation now enable us to ascertain more positively that in certain deranged functions, the organs involved are normal in structure. This is particularly applicable to the derangements of the bladder in the female.

There are several functional disorders of the bladder due to diseases outside of the organ itself, and in order that you may easily follow me in what I have to say about these derangements, let me enumerate the various ways in which the function of the bladder may be disturbed.

1. Frequent urination.
2. Difficult urination and retention.
3. Painful urination.
4. Pain after urination.
5. Incontinence of urine.

The majority of these deranged actions on the part of the bladder may be due either to functional or organic disease. Those purely functional I shall now tell you about.

In the variety of conditions of the nervous system grouped under the head of "hysteria," we often observe that frequent urination is a prominent symptom. The cause, in many cases, is the peculiar character of the urine secreted in this disturbed condition of the nervous system. The limpid urine of hysterical patients is deficient in solids, the watery portion being greatly in excess. This unnatural composition renders the urine irritating to the bladder, so that it cannot be long retained. The quantity of urine secreted is also excessive, which, together with the irritating quality of the fluid, renders urination necessarily very frequent.

But apart from the frequent urination which occurs, for the preceding reasons, in severe attacks of hysteria, we often see cases of frequent evacuation which can only be accounted for by the state of the nerves which govern the action of the bladder. When the quantity and composition of the urine are normal, and the patient can retain it without pain or distress during the night, but has to pass it every hour or two during the day, we may safely conclude that the trouble is purely functional, and due to a disordered state of the nervous system. The only condition which resembles this history is occasionally seen in prolapsus, the patient being free from trouble while reclining, but has to urinate frequently when in the erect position.

Another class of cases resembling the hysterical patients in the frequency of urinating, but differing in every other respect, we find in those who suffer in consequence of the habit of masturbation. The constant congestion and irritability of the pelvic organs, caused and kept up by the unnatural and excessive exercise of this sexual function, give rise to frequent urination. Such patients complain of general weakness, which is not accounted for by any organic disease of the general system. Nor is there disease of the bladder ; it is simply enfeebled and irritable like the rest of the pelvic organs. To make a correct and positive diagnosis in such cases is by no means easy, because it necessitates our detecting the habit of masturbation, and this is usually one of the most difficult tasks for the diagnostician. It is not always prudent to question the patient regarding the habit ; and even when we do, they frequently fail to comprehend the question, or they answer falsely in the negative. We are thus generally left to guess at the truth of the matter.

The symptoms developed by masturbation are depression of the nervous system, manifested by lassitude, sadness, or emotional manifestation of joy and sorrow—easily affected to smiles or tears. The eyes are dreamy and heavy, and the pupils dilated. Such subjects are excitable, irritable, and easily exhausted. They often have headaches. Nutrition is apparently good in some cases, as shown by the fair supply of flesh; still they often suffer from acute indigestion, although at times the appetite is remarkably good. The bowels are usually constipated, and the muscles are soft and flabby. The exhalations from the skin are changed in some cases, so that a peculiar odor is noticeable about such persons. This odor cannot be described, but when once experienced can be easily remembered.

In all this class of functional derangement of the bladder from neurotic causes, the symptoms vary in severity to a great extent in the same individual. The trouble is by no means regular and constant in its manifestations as in organic diseases. Whatever disturbs the nervous system will increase the disorder. The rule is, that frequent urination is the prominent trouble, but occasionally painful micturition is complained of. It is then simply a slight scalding pain experienced when the urine is passing over the irritable or chafed mucous membrane about the meatus urinarius.

Hysterical patients frequently suffer from retention of urine. Some of them complain for a time of difficulty in emptying the bladder, and finally fail to do so altogether. At other times they all at once find that they cannot urinate. There are conflicting views regarding the cause of this retention, some believing that such patients can't urinate, and others that they won't. Those who believe that the trouble is feigned, not real, do so on the ground that in this morbid state of the nervous system they enjoy catheterization, which would be distressing to any one of healthy mind and body. Others claim that in the extreme sexual excitement which occurs in some cases of hysteria, the chronic erection of the clitoris makes pressure upon the urethra, and prevents the flow of the urine through the then compressed urethra. I am satisfied that both kinds of cases occur. There are those who complain of retention when they know that the doctor will use the catheter, but they can urinate easily when they please. Others I have seen who were suffering from excessive and painful distention of the bladder, and would have gladly relieved themselves if they could. Retention of the urine from this cause occurs in the amorous, who either do not practice masturbation, or who have broken off the habit.

The function of the bladder is frequently deranged from diseases of the general system, and by affections of the other organs of the pelvis. In many of the acute diseases, where the urine is loaded with solid constituents, urination is often painful. This symptom is usually accounted for by the fact that it occurs during the constitutional disease, and passes off, as a rule, in a short time.

The effect of malarial poison on the bladder and urethra is very peculiar, and requires a notice in this connection. The trouble produced in this way has been called urethal fever, and is described as an inflammation of the mucous membrane of the urethra. It might more properly be called malarial fever of the urethra. As I have observed this affection, the bladder and urethra are usually both affected, but I do not consider the disease one of a well-defined inflammatory character. There are usually symptoms of malaria present, but not necessarily chill and fever. On the contrary, I believe that I have observed the trouble more frequently in remittent than in intermittent fever, and very often where the constitutional symptoms were not more than a slight derangement of the digestive organs with moderate elevation of temperature in the after part of the day.

The symptoms vary, but usually are as follows: The patient complains of frequent desire to urinate, and some vesical tenesmus; severe burning pain on passing water, with stinging and burning in the urethra after urination. The history of such cases resembles acute gonorrhœal urethritis so far as the abruptness of the attack and the tenderness and pain of the urethra are concerned, but there is usually no discharge, or at least very little. Under the proper treatment the disease disappears as promptly as it comes on. In many cases the suffering is greatest in the afternoon and early part of the night. The treatment is simple, and usually very satisfactory. Quinine* in full doses for one day, followed with small doses before meals for a week, will cut short the trouble, and prevent its return. The digestive organs require attention when they are out of order, as they generally are.

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* Bricheleau, *Archives General de Medecine*, was the first to give quinine in urethral fever.

Functional disorders of the bladder, caused by diseases of the other pelvic organs, are frequently met in practice. In this class the bladder trouble is secondary to some primary and more important affection, but the derangement of its function is often the most troublesome and most prominent symptom, hence it is important to understand its relations to the primary disease in order to make a correct diagnosis. This class of functional disorders frequently resemble in history some of the organic diseases of the bladder, so that care is necessary in order to distinguish the one from the other. What I may say on the subject will have reference to diagnosis only. When we know that the trouble of the bladder is due to disease of some other organ, attention is at once turned to the primary trouble; but we must keep in mind these facts when we are investigating the derangements of the bladder.

Diseases of the rectum often affect the bladder sympathetically. Irritation and pain of the rectum, from any cause, affects the bladder less or more. Chronic hemorrhoids will cause frequent urination, and so will rectal fissures, especially after defecation. Abscesses in the neighborhood of the rectum will frequently cause retention of the urine. Very troublesome irritation of the bladder comes from ascarides. The itching of the anus and rectum caused by these troublesome little worms keeps up an almost constant desire to urinate. Children are the most troubled with these parasites, but women often suffer in the same way.

Acute pelvic peritonitis and cellulitis cause great distress in many cases by their effects on the bladder. A constant desire to urinate, without the ability to make straining efforts to accomplish the object, are very often observed in all these acute pelvic inflammations. The disturbance of the bladder is of course only a symptom of the more important and primary trouble, and requires only to be mentioned here. The after effects of pelvic peritonitis on the bladder is what I especially desire to call attention to at present.

The adhesions formed by the products of the inflammation of the pelvic peritoneum are in some cases sufficient to prevent the distention of the bladder and frequent urination is then a necessity. This derangement of function generally exists alone. The urine is retained without trouble up to a certain amount; it is passed without pain, and no vesical tenesmus follows evacuation. Unless the contraction of the bladder is extensive and the frequent necessity to urinate very troublesome, patients rarely consult us for the trouble.

Resembling this form of deranged function of the bladder are the troubles which come from displacement of the uterus. In all dislocations of the uterus the bladder suffers less or more. In prolapsus the bladder is drawn down, and cannot expand with the same facility, or else the extra traction on the utero-vesical ligaments produced by the prolapsus increases the irritability of the bladder. Whatever the explanation may be, the fact is that in prolapsus uteri the subject cannot retain the urine for the usual length of time.

Frequent urination from this cause is as marked in prolapsus in the first degree as in more advanced stages of the trouble. When the displacement has existed for a considerable time, the bladder accommodates itself to the new relation of things, and the calls to urinate become less frequent.

In complete prolapsus of the uterus and bladder, we find, in place of frequent urination difficult urination, and in rare cases retention. I presume that in such cases the bladder is never completely emptied. The little urine which remains decomposes, and in time causes cystitis, which greatly increases the suffering of the patient. Such cases are very much like the cystitis which in old men comes from partial retention of the urine caused by enlargement of the prostate gland.

Anteversion usually causes frequent urination in a more marked degree than prolapsus. In this displacement the uterus is generally enlarged and elevated, so that the body and fundus rest upon the bladder and impede its distention.

Retroversion affects the bladder the same as prolapsus, except when the uterus is very much enlarged and is thrown backward and impacted in the pelvis, so that the cervix presses firmly on the urethra. In such cases urination is impossible. Examples of this are seen in retroversion occurring in the early months of pregnancy or after confinement.

Functional derangement of the bladder, arising from the various forms of displacement of the uterus, is characterized by one peculiarity, and that is, that the trouble is aggravated by the patient standing or walking, and relieved by lying down. You can usually tell that the frequent urination is caused by displacement when the position of the patient so affects the symptoms. The exceptions to this rule are very rare, but one of these I related in my previous lecture.

I have observed that patients with anteflexion often suffer from frequent urination, but I have not been able at all times to say whether the trouble was due to the fundus uteri resting on the bladder or to the supersensitiveness of the whole pelvic organs. I have inclined to believe that the latter was usually the cause.

Having thus briefly disposed of some of the more important functional disturbances of the bladder, I now turn your attention to diseases of the urethra.

Acute urethritis, though not a very frequent disease among women, is a very distressing one to the patient, and often difficult to relieve. In many cases you will find the pathology specific, *i. e.*, due to gonorrhœa; and I would treat this subject as gonorrhœa in women, were it not that it is often difficult to tell a specific or venereal urethritis from simple inflammation of that portion of mucous membrane. There is a difference in history when we can get correct testimony from the patient. Simple urethritis usually comes on gradually, and is preceded by symptoms of uterine or vesical disease; while gonorrhœa comes on rather abruptly, and is preceded or attended by acute vaginitis and vulvitis. The chief symptom is painful urination. Sharp scalding is produced by the urine passing over the tender surface. There is often a frequent desire to urinate, but not so urgent as in cystitis. In some cases the urine is retained for a long time, evidently from a dread of the pain caused in passing it.

An examination of the parts will show signs of inflammation about the meatus, with or without the same condition of the vulva. Occasionally there is a discharge seen coming from the urethra, but if the parts have been recently bathed this may not be apparent. Introducing the finger into the vagina and pressing upon the urethra from above downwards, the discharge can be started unless the patient has passed water immediately before. The appearance of the discharge resembles that of gonorrhœa in its various stages.

The treatment of acute urethritis, whether specific or not, may be conducted on the same principles as in gonorrhœa in the male, using the same constitutional remedies—local baths, etc. This will suffice in most cases of acute disease; but when it assumes the subacute form, or is chronic from the beginning, then the use of injections becomes necessary. Solutions of nitrate of silver, sulphate of zinc, and the like, will answer. You must bear in mind that the female urethra will not hold more than ten or fifteen drops, and if more is used it will enter the bladder, even where very slight force is used while injecting. I use a large syringe, placing the nozzle over—not into—the meatus, and inject slowly and without force a small quantity. When the case is of long standing, and the neck of the bladder appears to be involved also, I use a mild injection of one or two grains of nitrate of silver to the ounce, and inject it through the urethra with force enough to enter the bladder, and let it remain there, to be passed off when the patient urinates. In old cases which began by a severe acute attack, and where the walls of the urethra are very much thickened and the canal contracted, dilation with bougies does much good. While the bougie is passed once or twice a week, I apply to the vaginal portion of the urethra oleate of mercury or the unguentum hydrargyri. This will often suffice to stop the gleety discharge, as well as remove the thickening of the urethra walls.

Another very troublesome affection of the urethra which results from urethritis, or may appear without any previous disease, is granular erosion, as it is called. The mucous membrane is covered with young, imperfectly developed epithelium ; the papillæ are hypertrophied and extremely sensitive. This gives rise to the most excruciating pain during micturition, and generally keeps up a distressing tenesmus. This disease is fortunately not very common. Old people are most liable to suffer from it. The diagnosis is made from the history and appearanee of the urethra. The treatment which is most reliable is, cauterization of the whole surface. The milder washes and injections do not accomplish much. Pure carbolic acid may be tried first, brushing it over the surface, and repeating it in eight or ten days. This is the least painful application, and answers in some cases. When it fails, solid nitrate of silver should be used; and when that does not suffice, nitric acid or the actual cautery may be employed. Better, perhaps, than these strong caurtics, is to dilate the urethra so as to paralyze the muscles, and then touch it with carbolic acid.

Vascular tumor, caruncle, or wart of the meatus urinarius, is an affection which will come under your notice quite as often as any of the urethral diseases. These growths are located in the meatus, and generally on the lower side. They have the bright red and fungous appearance of mucous polypi, such as you may have seen in the nose, ear, or cervix uteri. Sometimes they are pedunculated, but more frequently sessile. They are very tender to the touch, causing the patient much distress when anything comes in contact with the diseased part. The chief trouble is the pain which they cause during micturition. They are easily diagnosticated, as a rule. The bright red color of the tumor or tumors—for there are often more than one—contrasted with the normal membrane around, makes detection easy.

The only thing likely to be confounded with them is prolapsus of the mucous membrane of the urethra. This rather rare affection can be distinguished from caruncle by the tumor extending uniformly all round the meatus, and presenting the usual appearance of a mucous membrane in a state of congestion and œdema. It can also, in some cases, be reduced when the patient is lying on the back.

The treatment of caruncle is to thoroughly remove the abnormal part. When they are pedunculated they can be clipped off, and the base touched with caustic to stop the bleeding and prevent regrowth. When they are sessile they should be destroyed by nitrate of silver, nitric acid, or chromic acid. To be able to apply the caustic to the abnormal part, and save the normal portion of the urethra, I have used a No. 10 or 11 gum catheter, having one side cut away. This I introduce into the urethra so as to bring the tumor into the notch of the catheter, and the caustic is then applied. Better still is the instrument recently described in the *Obstetrical Journal of Great Britain*, by Mr. Thomas Bryant. It is something like an ear speculum cut away on one side, and answers as a "dilator, speculum, and protector." It is an improvement on the ordinary female urethral speculum.

I have already mentioned prolapse of the mucous membrane, and I need only say here that it is a rare affection, occurring in broken-down constitutions, where there has been pre-existing bladder or urethral disease. I base this statement on one case which came under my own observation. The appearance is that of a uniform, round, red tumor at the meatus, with the opening into the urethra in the centre of it. If possible it should be returned by pushing it back, and then using astringent washes to endeavor to keep it in position; but this, I learn, usually fails, and then removal of the prolapsed portion is necessary. The quickest and best way is to take it off by the galvano-cautery. When this is not at hand the actual cautery may be employed. The most prominent portions should be touched, which will cause sloughing; and the contraction which occurs during healing will dispose of the superabundant tissue.

I ought to mention polypus of the urethra, which is one of the rare troubles, and may be classed with vascular tumor and prolapsus. No difficulty will be experienced in the diagnosis and treatment of this disease when the tumor is situated at or near the meatus urinarius. When it is situated high up, it may escape notice in the ordinary examinations. When the symptoms point to the presence of such tumor, a small speculum should be used, or the instrument of Bryant already spoken of. When the polypus is detected it should be removed. To do this, however, it is necessary, as a rule to dilate the urethra. This can be easily and safely done by using sounds or the improved Barnes' dilators.

Recently dilatation of the urethra has been practiced very extensively. Dr. Noeggerath, of New York, has not only employed dilatation as a means of examining the urethra and bladder, but also for the purpose of admitting the finger to explore, by the touch, all the organs of the pelvis. He was not the first to dilate the female urethra—that had been done long ago—but he was the first, I think, who dilated it for the purpose of examining the pelvic organs. In the space of a few hours he has dilated the urethra sufficiently to admit the finger, and no very serious trouble followed, which is contrary to what we might have expected. This dilatation of the urethra for the purpose of examination, and also as a means of curing many of the urethral and bladder diseases, is one of the most important improvements in the management of this class of surgical affections. It is to the urinary organs what stretching the sphincter ani is to the surgery of the rectum.

I have only time to briefly notice urethrocele, and refer you to Dr. Bozeman's article on that subject in the *American Journal of Obstetrics* for February, 1871. In his paper you will find a more extended account of the subject than I can possibly give. The pathology given by Dr. Bozeman is as follows: First the lower portion of the urethra becomes constricted, by infiltration of the tissues outside of the urethral mucous membrane. This causes dilatation of the urethra higher up; and at the same time the muscular coats increase in size. The result is, that the central portion of the urethra being distended, settles down, so that in time the urethra, in place of being a straight canal, becomes triangular, the upper portion being the base, and the central and lower portion (that is, midway between the neck of the bladder and the meatus) the apex. At this dependent portion a few drops of urine accumulate, which also increases the distention, and by its decomposition causes inflammation and ulceration. The urethrocele projects down into the introitus vulvæ, in the shape of a tumor, which may be mistaken for cystocele. In time the inflammatory affection of the urethra involves the bladder.

Among the causes mentioned are injuries during labor, over-exertion, excessive coition, congestion, and inflammation of the mucous membrane. The symptoms (after the disease which began the trouble has subsided) are first difficult, and finally painful and frequent urination. The diagnosis can be made from the history and the presence of a tumor in the introitus valvæ, and the deflected condition of the urethra.

The treatment recommended by Dr. Bozeman is to tap the urethra at the most dependent portion. He proposes to make an opening through which the urine can pass, and leave it open until all inflammation has subsided—say one or many months—and then close it.

Regarding this disease I must say, that I have not seen many cases of it, or if I have, I failed to detect its true nature. One case I remember which corresponded to the history of urethrocele, and was no doubt a genuine specimen; but I recollect she got well under treatment, which consisted in dilatating the urethra with sounds, and washing it out frequently with a solution of nitrate of silver.

Finally, I will mention fistula of the urethra—not the ordinary opening which comes from injury and is described in text-books along with vesico-vaginal fistula, but blind internal fistula. The history of a case will perhaps answer better than a description. A lady had what appeared to be a cyst in the urethro-vaginal wall. Inflammatory action set in; and the pressure of the knife, used to open it in the vagina, caused an opening into the urethra at the same time. The wound in the vagina healed, but the opening in the urethra remained, and pus and urine accumulated in the sac, and a pretty constant discharge from the urethra continued. In another case of specific urethritis, followed by considerable thickening of the urethral wall, a sac or pocket was formed, which filled with pus and urine, and supplied a discharge which was almost as constant as an acute urethritis.

The treatment in both cases consisted simply of dilatation of the lower portion of the urethra with sounds, and washing out the urethra and sac with borax and water. The patients were also directed to make pressure upon the upper portion of the urethra, after urinating, to force out any urine that might lodge in the fistula or sac. One case recovered, and as the other did not return it may have ended in recovery also. In case this method should fail, I think it would be good treatment to make an opening into the sac from the vagina; *i. e.*, make a complete urethro-vaginal fistula, and afterwards close it by the usual operation.

Selections.

HYPODERMIC MEDICATION.

If any instance were required to be cited, to prove that medicine is a progressive art, commanding the highest order of scientific knowledge, reasoning powers and inventive skill, and requiring the most patient observation and untiring research and experiment, the fact of the great advances conferred by hypodermic medication might be put forward. The history of the discovery of the method of injecting medicines subcutaneously, illustrates patient labor and improvement step by step, rather than a brilliant immediate achievement. Some of the latest applications of the method, however, might serve as admirable illustrations of the brilliant triumphs achieved where the reasoning powers guide the path of discovery and experiment.

A very interesting summary of the history of hypodermic medication appeared in a series of papers lately contributed to the *London Lancet*, by Mr. Cullingworth, of Manchester, in which the modes and processes resorted to, before Dr. Alexander Wood made use of what is now known as the hypodermic syringe, are traced in progressive order. The object of nearly all the early investigators was the relief of neuralgia by the direct application of narcotics to the painful part. Lembert and Lesieur in 1824 applied blisters over a neuralgic spot and sprinkled morphia over the surface deprived of its epidermis. In 1836 Lafargue, by means of a lancet puncture, inoculated morphia. Afterwards a grooved needle was used to convey morphia, in suspension; and Langenbeck devised a sort of spoon or scoop partially covered over, wherewith to introduce morphia beneath the skin. Then Rynd, of Dublin, employed a needle and canula, the needle being withdrawn after making the puncture, and a concentrated solution of morphia poured into a little opening in the side of the canula, and allowed to run down into the tissues. Dr. Wood's crowning discovery was made in 1853, when, having occasion to use one of the little syringes made by Ferguson, for injecting the solution of perchloride of iron into a nævus, it struck him that this was just the instrument wanted for injecting morphia subcutaneously, and he determined to try it in the next case of neuralgia that presented itself. The opportunity soon came, the experiment was a success, and the practice of hypodermic medication thenceforward came to be established. Charles Hunter afterwards proved that the influence of remedies injected subcutaneously is not local, but is exercised throughout the general system, and that consequently the relief will be the same, however far away from the afflicted nerve the narcotic be introduced. This discovery widened the field of hypodermic medication, and led to the use of various agents, as ergot, quinine, etc., for the arrest of hemorrhage and the cure of intermittent fever.

Of the value of ergot as thus employed in arresting hemorrhage, some striking instances have been published. Rapidity of action is one of the merits of the hypodermic method, and in alarming hemorrhages we can by means of injected ergotine save time, as well as excel the efficiency of other agents. Ergotine is the name given to a concentrated extract of secale cornutum. Hemoptysis, hematuria, and hematemesis have been thus controlled through the speedy and special action of ergot on the vaso-motor system. The parturient action of ergot may also be obtained by means of hypodermic injection. Dr. Clifford Allbutt has declared that there is a great difference in the effect of morphia given hypodermically and when taken by the mouth, and the same is claimed for ergot. By preference, hypodermics of ergot have been resorted to for expelling submucous fibroid tumours of the uterus.

The injection of quinine has not as yet come into much favor, and until some further advances are derived from experiments we shall probably go on treating intermittents by the old methods.

Belladonna is injected subcutaneously under the form of atropine and its salts. In the late cholera epidemic in the Mississippi Valley, sulphate of atropine in combination with morphia was injected hypodermically with beneficial and encouraging results, in alleviating spasms and allaying vomiting and purging. No doubt this plan will be thoroughly tested in succeeding epidemics.

A fresh advance—and one gained by triumphing over certain obstacles—is the injection of mercury for the cure of syphilis. Corrosive sublimate which was first employed to this end, had such an irritant and powerful local action, that it might be concluded that it was unfit for such a purpose. The early experiments in injecting this agent were attended by the production of abscesses, but the quantity injected was steadily lessened until it has been found that the daily injection of fifteen minims of a solution containing one grain to the ounce—equal to the thirty-second part of a grain—will exercise a constitutional effect and cure syphilis without the production of abscesses. Since it became evident that mercury could be efficiently employed by means of injections, much skill and ingenuity have been exercised in trying to find a mode of introducing larger doses of mercurial preparations with the view of more rapidity curing syphilis, (for the larger the quantity of mercury introduced into the system per diem the more rapid the cure) and at the same time of avoiding irritant effects, and the production of abscesses. Thus it has been found, that the addition of morphia to the solution of perchloride of mercury lessens its irritant action, and enables a larger quantity to be injected without much greater risk of producing abscesses. This is the plan practised by Lewin, of Berlin, who injects one eighth of a grain daily. It has been extensively employed in Berlin, Paris, and Vienna, and is asserted to be the most rapid method of curing syphilis now practised. Experimenters are trying other preparations of mercury. Staub uses the albuminous solution of corrosive sublimate in alkaline chlorides, free from acidity and destitute of the power of coagulating the albumen of the blood. This is asserted to be much less irritant in its local action than the simple solution. In Paris, the double iodide of mercury and sodium has been tried. Mr. Cullingworth, whose papers in the *Lancet* we have already referred to, uses the bicyanide of mercury, and finds it more satisfactory than any other salt. Three grains of bicyanide are dissolved in an ounce of water containing a little glycerine. Fifteen minims of this solution are injected in the upper arm, or the gluteal region. There is little or no pain, and the local effects, he says, are "reduced to absolute insignificance."

The general practitioner who employs the hypodermic method, will find the earliest uses of the instrument by far the most common and justifiable. There is no prompter method of administering an anodyne than by the hypodermic syringe. In inveterate neuralgia, in painful nervous dysmenorrhea, and other allied affections calling for the administration of a narcotic, the hypodermic injection of morphia gives the promptest relief. Although peculiarly applicable in cases of gastric disturbance, it nevertheless is apt to produce nausea when given in a full dose, just as morphia does when given by the mouth. Its calmative effects, however, soon follow. These are so decided as to have overcome the popular prejudices at first roused against the plan.

The acetate of morphia is much to be preferred for hypodermic use, it is more soluble in water than the other preparations, and so enables a more concentrated solution to be made, whereby the time employed in injecting is diminished, and the painful tension of the subcutaneous cellular tissue produced by injecting a large quantity of solution is avoided. The addition of sulphate of atropine is said to increase the calmative effect of the morphia, and at the same time to lessen its constipating property. The following formulæ may be used:—(1) Acetate of morphia, one grain; pure water, six minims. Inject three minims—equal to half a grain. (2) Acetate of morphia, ten grains; sulphate of atropine, one grain; water sixty minims. Inject three minims. More dilute solutions than those may be used without producing much greater pain or inconvenience.

There is evidently a greater field widening, and a brighter future opening up, for hypodermic medication. Its uses are sure to be extended. The study therefore of these advances in medicine is to be commended to every earnest practitioner. It is well to have improvements and advances in medical art; but it is still better to have the advantages arising therefrom widely diffused. The hypodermic syringe ought to be as common in the doctor's armamentarium as the lancet used to be. Unlike the latter the syringe has not gained the opprobrium of being "a tiny means of mighty mischief," but is rather gaining in usefulness, in popularity and approval every day.—*Ed. Canada Lancet.*

THE USE OF CHLOROFORM IN PUERPERAL CONVULSIONS.

By D. W. Brodnax. M. D. Rockdale, Milam County, Texas.

Occasionally I see articles in the medical journals of the day on the use of chloroform in puerperal convulsions, some approving its use, others condemning it for various reasons, affecting both mother and child. As there still seems to be a contrariety of opinion, I suppose that any remarkable case in which it has been used in what might be considered excessive quantity, would be interesting to the profession, I will, therefore, offer you one that occurred to me some time ago. Lest any may accuse me of dereliction in not using the forceps and putting a speedy end to the poor woman's sufferings, I will say, in defense, that a river was between me and my instruments that was so greatly swollen that it was impossible to get them, and I was compelled to do the best I could without their valuable assistance.

In a country practice remote from commercial centres where the most approved instruments and medicines, other than the common-place staples found everywhere, and they often so old and adulterated as to be unreliable, and, too, when, as in many instances, the practitioner is working for a people who will not pay him enough of his hard-earned dues to live on, much less to enable him to purchase such instruments, we are terribly hampered in resources, and are often compelled to stand by and helplessly witness the unhappy progress and results of cases that we are satisfied we could relieve and save if we only had the proper appliances and remedies, which it would be our pride and joy to possess did the people pay us reasonably for services rendered, not to say generously, to enable us to be prepared for emergencies that may happen to all; and we are debarred, too, by this delinquency the privilege and great advantage of taking medical journals and purchasing medical works to keep ourselves abreast of the rapid progress now being made in medical science, and store our minds with useful knowledge, to enable us to combat successfully the thousand ills to which mankind is heir. They practically shut out the light from our eyes and then blame us because we do not see clearly and act efficiently in time of need. Is it a thing to be wondered at that country practitioners, who meet continually all kinds of ailments, and are obliged to treat all clases of diseases, should often fail to cure them? On the contrary, the wonder is that they are so frequently successful and so generally relieve the sufferings of mankind. When the progress of science has so greatly enlarged the field of knowledge as to make it necessary that specialties have to be made of a great many different departments of the profession in order to attain proficiency in practice, it is wonderful that the country practitioner, who has to treat cases in all these various branches, and who is deprived by the meagre pay he receives of access to the literature of any of them, or the best appliances required in their treatment, I say it is wonderful that he is so generally successful as he is. This shows either that the vis medicatrix naturæ, which it seems to be the tendency of science to ignore, is more efficient to rectify evils than she is generally credited with, or that there is more refinement attempted than there is occasion for, or that the average capacity of men's minds is adequate to the scope yet attained in the progress of science. The two first of these postulates are too humiliating to be admitted by any devotee of science, and the last too arrogant to be assumed. How then is this to be accounted for? Is the fact doubted? Notwithstanding our restricted means, we still get glimpses of current literature, and we see that our mortality compares favorably with that of the seats of science in all branches of the profession, and we wonder that this is so. We amputate a leg in a negro's cabin with no assistance but ignorant negroes, and no instrument but a jack-knife, a carpenter's saw, or such as are contained in an ordinary pocket-case, and the patient recovers. We perform ovariotomy, and deliver a woman whose pelvis does not exceed two and a half inches in antero-posterior diameter, with no other instruments than a pocket-knife and a pair of joiner's pincers, and she makes a good recovery. In the branch of therapeutics, we can rarely get any than staple medicines, for the druggists fear to order anything new, lest they find no demand for it, yet our results are as satisfactory as those reported by our more favored brethren. Far be it from me to underrate the value or the importance of scientific improvement, as might possibly be inferred from what I have said. On the contrary, I fully appreciate it; and when I read of any new instrument that facilitates an operation in surgery, or new remedy that more quickly relieves suffering and restores health, or a brilliant feat by a giant in the profession, or of some new publication that teaches us new theories and new practices, I wonder and admire, and grieve that my lot was not cast where I could have access to such facilities and avail myself of them. All honor to scientific explorers and workers; I am only making a feeble apology for the shortcomings of country practitioners who are deprived of such facilities.

But, revenous a nos moutons—the case that it was my purpose to report, from which I was beguiled into a digression as to the grievances of country practitioners, is this: The husband had sought the aid of several physicians more accessible than myself for his wife when taken in labor, and failed to obtain it, so that twenty-four hours had elapsed before I reached her. I found her profoundly comatose, and the convulsions, of which she was reported to have had "at least one hundred," recurring every few minutes. During the convulsions, it required the strength of as many women as could get hold of her to keep her in bed. The waters had come away hours before, the head presenting in the first presentation and engaged in the superior strait. Everything seemed favorable for a speedy delivery, except, perhaps, a too great rigidity of the soft parts, were the pains sufficiently strong, which, under the circumstances, I could not properly estimate. I had an ounce of chloroform in my saddle-bags, which I at once proceeded to administer, and procured a pound bottle which had never been opened. This at once put a stop to the convulsions, but on any attempt to withdraw it, they would recur, which compelled me to sit by her side with chloroform in hand, which I applied whenever I perceived a threat of recurrence. This was continued for thirty hours, when, to my great joy, the labor was completed. The whole pound of chloroform, together with the ounce that I had, had been used up to the last drop, yet the child did not show the slightest signs of its effects, and the mother awoke to consciousness in a few hours, and made as good a recovery as any woman ever did. It is true that much of the chloroform was wasted by imperfect administration, but she was kept under the influence for thirty hours, and no unpleasant effects to mother or child resulted.

CASES OF FATAL HEMORRHAGE AFTER CHILDBIRTH.

By Charles Bell, M. D., F. R. C. P.

I was requested, on the 19th of May, 1872, to see Mrs. Kerr, aged forty-two, a district patient of the Royal Maternity Hospital, who had been delivered of her thirteenth child, at 2 P. M. On my arrival I received the following history of the case from Mr. Jeffrey, the House Surgeon. She was married in 1853, and had twelve children at the full time, and one miscarriage at the third month. In consequence of a congenital malformation she had always refrained from employing a midwife or accoucheur in her confinements, and had always been able to deliver herself safely in all her previous labors, until the present occasion, when, after delivering the child, which was still-born, she failed to remove the placenta, and endeavoring to do so she separated the cord at its insertion. She did not apprehend any danger, however, and proceeded to wash the child; but she was soon seized with hemmorrhage, followed with syncope. A doctor was then sent for, but unfortunately he was from home. A midwife who lived in the neighborhood was then called in, but on ascertaining the nature of the case, she according to the custom of such persons in cases of danger, declined to interfere with it, suggesting that medical assistance should be obtained from the Maternity Hospital. This suggestion was acted upon, but the nature and urgency of the case not being stated, a pupil was sent, who, on discovering the condition of the woman, sent for the House Surgeon, who immediately sent for me, and, in the meantime, administered a large dose of turpentine, which seemed to check the hemmorrhage.

On my arrival, between eleven and twelve at night, I found the poor woman in an extreme state of exhaustion, pulseless at the wrist, and quite anemic. On examination I found the entrance to the vagina in a great measure blocked up by two condylomatous tumors about the size of the fist, occupying the labia. I met with considerable difficulty in passing my hand between them, and on reaching the uterus, which was quite relaxed, and the placenta partially but firmly adhering, I removed the portion that was detached; but from the extreme exhaustion of the patient I refrained from separating what was adherent, and ordered her to have stimulants and a large dose of ergot. She rapidly sank, however, and died a few minutes past twelve, about ten hours after the child was born.

This case presents several points of interest, which I shall briefly refer to. In the first place, it is, so far as I know, the only fatal case of hemmorrhage on record among the patients of the Royal Maternity Hospital; and although I have seen many cases of puerperal hemmorrhage, this is the only fatal case I ever met with, having always found that the established means of treatment were quite sufficient to check the discharge; and had they been had recourse to in proper time in the present case, there is every reason to believe they might have been successful; but from the history of the case it will appear that much valuable time was lost, and, the system being unaided, was unable to contract the uterus and entirely throw off the placenta—the only true source of safety in such a case. This case gives a striking example of what women can do in trying circumstances, especially when actuated by false shame. Had this not been the case, this unfortunate woman would have had the condylomatous tumors removed in proper time, and in all probability her life might have been preserved. This case also illustrates the custom among savage tribes, in which women not only deliver themselves, but immediately proceed to wash their children, and then return to their domestic duties.

The following case fully bears out the opinion I have expressed in regard to the proper treatment not having been pursued in due time in this unfortunate case.

In the absence of Dr. Keiller, I was requested to see Mrs. J., who was in labor. On my arrival I found that she had just been delivered of a daughter, after a natural and rapid labor. The placenta was retained in the uterus, but it was easily removed; the binder was applied, and everything seemed satisfactory; but the womb relaxed, and profuse hemmorrhage came on, producing complete cessation of the pulse at the wrist for two hours, during which the uterus became contracted and relaxed several times, each relaxation being attended by a gush of blood. Ultimately, however, the uterus remained firmly contracted. I continued for five hours at the bedside of the patient, applying pressure on the abdomen with the one hand, and occasionally removing clots with the other, and irritating the internal surface of the uterus. At the same time the tincture of the ergot was given, along with, first brandy, and afterward port wine. On the following day she was wonderfully well, and I believe she made a good recovery; but I must refer you to Dr. Keiller, who then took charge of the case, for the further history of it. I am quite satisfied that had this case been treated by injection of the perchloride of iron it would have proved fatal; for the inevitable consequence would have been that on every contraction of the uterus a certain quantity of the styptic would be sucked in by the blood-vessels, forming embolism. If this remedy ever proved successful, it must have been by acting as an irritant, of which there are many more safe in their character, inducing the uterus to contract or when the hemorrhage proceeds from tearing of the cervix, which will be ascertained by the flooding continuing after the uterus has contracted.

TREATMENT OF CHRONIC BRIGHT'S DISEASE.

The chief indications in the treatment of the chronic forms of Bright's disease are two: *first*, to improve the quality of the blood, which has become anæmic and loaded with urea and allied organic compounds; and *second*, to combat the symptoms and complications which form a source of great inconvenience and even danger to the patient.

"The first of these indications is chiefly fulfilled by the use of iron, quinia, and strychnia, nourishing food, and proper hygienic influences; and also by depurating the blood of its retained urea. The well-known Basham's mixture has the advantage of at least tending to eliminate, while it also restores. But the tincture of the chloride alone is a powerful agent, which is always accessible, and when combined with the sweet spirit of niter is perhaps as efficient as the Basham's mixture. To either the quinia and strychnia may be added, if desired, while to the latter the infusion or tincture of quassia makes a compatible addition.

"With regard to diuretics, nothing need be added to what has been already said, bearing in mind that digitalis is our most powerful lever; but with regard to measures which promote a decided action of the skin I desire to add a little more. These are the 'warm pack bath' and the hot-air bath already alluded to. I have recently used considerably the hot air-bath, and made some observations to determine its value, the results of which satisfied me that we have a much more useful agent than many of us have suspected. A patient with large white kidney was under my observation for more than a year. During a portion of this time his urine was carefully measured, and a portion of the twenty-four hours' urine analyzed for urea by Liebig's volumetric process, which was repeated to insure accuracy. He was a very large man, passing copiously of urine, and the quantity thus arrived at was 540 grains, the total quantity of urine being 2,000 cubic centimeters (66⅔ fl. ℥). He was then ordered a hot-air bath daily, during which he perspired most freely. The twenty-four hours' urine was of course diminished; but on estimating the urea in the twenty-four hours after the sweating had been continued three days it was found to be 714 grains in 1,700 cubic centimeters (56⅔fl.℥) urine, actually an increase over the amount secreted when not under the baths. This can be accounted for by the increased celerity of the circulation which would naturally result. If we add to this the amount of urea contained in the increased perspiration, which was of course not determined on account of the difficulties of collection, we will see how powerful a means of depurating the blood of its urea is thus at our disposal; and I am quite certain that if the use of the hot-air bath were more common, our power over Bright's disease would be greater. There is a common impression that it is troublesome and difficult of application; but this is not the case, as may be seen by the apparatus I exhibit, being that in use at the Philadelphia Hospital. Sometimes, however, these hot-air baths are not well borne by patients; they do not perspire, and the head and face become flushed, and the former throbs and aches. Under these circumstances the warm pack may be used instead.* It is perhaps equally efficient, but is more troublesome. It may be objected that these means are exhausting to the strength of the patient, but I think they will be found less so than is commonly supposed. The strength of the patient may, however, at the same time be maintained by iron, tonics, and milk.

The use of *purgatives* for depurative purposes and to reduce the dropsy has long been common in the treatment of chronic Bright's disease, and to this end it has been common to select a peculiar class of purgatives, viz., those which produce profuse watery evacuations, as elaterium, scammony, gamboge and jalap. But it must be remembered that in the circumstances now under consideration it is not a temporary cause, the effects of which we desire to obviate, but a constantly acting one; so that to be of service the purgative must be continued day after day, or every other day at least. Now, such use of the hydragogue cathartics above mentioned cannot be continued for any length of time without materially reducing the strength of the patient much more decidedly than through the daily sweat. I do not deny their effect in diminishing the dropsy. On the other hand, I have many times observed this effect, and in some I have observed the dropsy totally disappear, but with it the strength of the patient to such an extent that as the dropsy subsided the life of the patient went out with it ; so that it might truly be said that had the patient lived a little longer the dropsy would have been cured. I am not, therefore, very partial to the continued use of cathartics in chronic Bright's disease; but it must be remembered that it is to the prolonged use that I refer ; to relieve a sudden emergency, as the occurrence of uræmic symptoms; in a word, under the same circumstances under which I would use them in *acute* Bright's disease, if they could be administered, would I give them. Of the remedies mentioned, undoubtedly the one which most strikingly produces the desired effect is elaterium. The profuse painless discharges which it effects in doses of one twelfth to one sixth of a grain are well known, while the small quantity required makes it peculiarly easy of administration.—*Dr. Jas. Tyson, in the Medical Times.*

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*Since reading the paper a member of the society has suggested the propriety of tying a wet handkerchief about the head, as is done in the Turkish bath, with a view of preventing these unpleasant head-symptoms; and it is not unlikely that it would prove an efficient agent.

VACCINATION.

By A. W. Fontaine, M. D., New Canton, Va.

In this the last quarter of the nineteenth century there are very few to doubt that vaccination is the most efficacious preventive of small pox. That admitted, the importance of its application must, as a matter of course, be acknowledged. Yet we find in many of the most enlightened nations of the earth very many who are strenuously opposed to it. Why is this? Is there no plausible reason for it? It is to be feared there is. Perhaps no one can yet assert without a prompt contradiction, seemingly at least, supported by facts, that vaccination has never done any harm. And such assertion can never be made good so long as there is such gross ignorance and reckless carelessness among many of those who practice it with so much culpable indiscretion,—those who will take virus from almost any arm and insert it into another because they do not *believe* that other diseases than vaccinia may be transmitted with it or instead of it. The mere *faith* of the operator in such cases can prove no miraculous safeguard to the subject. The vital question in this matter is not what the doctor believes about it, but rather does he *know* that it is impossible to inoculate along with vaccine lymph such fearful maladies as cancer, scrofula, syphilis, tuberculosis, etc., etc.

It is not proposed here to give all the arguments *pro* and *con* as to the inoculability of such diseases. Many volumes have been written on both sides of this question, and many more are likely to be written before this dispute is practically settled. Perhaps no one man ever did or ever will live long enough in the enjoyment of adequate opportunities and facilities for dispelling all doubts upon the subject. In the meantime, the clear and binding duty of each member of the profession is to act on the *safe side* in premises involving such heavy responsibility. The very incertitude resting on the subject makes individual accountability all the more weighty. Yet what utter difference or criminal want of knowledge is manifested by many of those who should be, as they are morally held to be, guardians of health, and consequent happiness to the human race! Until we can show to the satisfaction of all rational-thinking men that no harm has been or can be done by indiscriminate vaccination, we must expect opposition to it, and that on *just grounds too.*

What I propose here to offer in furtherance of this object has no claim to startling originality or special merit. But what I do claim is, that it is the duty of somebody to jog the professional mind, if only by reiteration of well-known facts, to some degree of vigilance and activity in the prosecution of this matter. I do not profess to know how it is with the profession in other States and countries, but it is tolerably certain that among us here in Virginia there is a degree of laxity and inefficiency touching this particular that is not at all creditable to any body of scientific or philanthropic men. In the cities and large towns of one State perhaps this would not apply as a rule, but in the more sparsely settled districts of country there is little doubt that it would.

To meet the difficulties of the situation—1. It would seem there is needed a wider diffusion of such knowledge as we have, not only among the profession, but the people; 2. The most rigid care in the selection of the virus to be used, the best means of preserving it, and the most skillful and effectual method of applying it; 3. Such legislation as is best calculated to encourage and enforce the above conditions.

I. It is assumed that there is no better medium than the many and excellent medical periodicals for reaching the medical mind of the country, and through it the public attention, on all subjects bearing on the physical well-being of the people. And yet how little do we see there on this important subject, and how seldom do we see that little! Many men of first-rate standing in the profession, who have kept pace with all the great discoveries and improvements of this fast age which relate to the general and special branches of medical science, know no more now about vaccination than they did in the day of their graduation, twenty, thirty, or even forty years ago. Now, if by this means I can start the ball in motion, the main object of this writing will have been accomplished, and it is to be hoped that it will be kept going by abler and more skillful hands until it shall have been brought against the sleepy noddle of every easy-going doctor in the land.

II. *The selection, preservation, and application of vaccine virus.*—With this branch of my subject the name of the late and much-lamented Dr. James Bolton, of Richmond, is most intimately associated. For the last ten or fifteen years of his life his interest in vaccination was very great; his zeal in its behalf amounted almost to enthusiasm. In the investigation of the subject, in the prosecution of its practical details, he brought to bear the energies of a well-stored and conscientious mind, with a zeal and an ingenuity very remarkable. To say that the profession and people of Virginia, up to the time of his death, owed more to him in this behalf than to any other man that ever lived and worked among us, would hardly be telling all the truth. After this slight tribute offered in gratitude to a kind friend and most worthy exemplar, what is to be said on the practical bearings of my subject cannot be better presented than as I have learned them from him. It was my good fortune for several years to be in frequent correspondence with him, and often accessorial, in a small way, to his experimental proceedings, but more especially in the prime object of keeping the people *protected by vaccination* and making suitable returns of *pure and reliable* virus to him as vaccine agent in Richmond. In this way I picked up a good deal that I think should be recorded and afforded a free circulation, at least among the profession of our State.

Dr. Bolton did not believe that *effectual* vaccination ever propagated any of those constitutional maladies mentioned in the early part of this paper. In other words, he thought that though such contamination might be introduced into the system along with the cow-pox virus, yet if the latter took effect and developed in regular process, it would entirely destroy the germination and development of the former. This of course, was a mere opinion. Confirmed as it was in his own mind, he still respected the prejudices of others on that head, and acted accordingly.

The following—with no very essential qualifications or modifications—were the practical deductions impressed on my own mind during my communications with Dr. Bolton on this subject:

(a) *Selection of Virus.*—We should not take virus from the arm of a "healthy child" merely because it is healthy, without regard to its parentage and antecedents, even to the grand-parents on both sides, if our search can reach so far. Hereditary syphilis, and even the germs of cancer, might lurk in such a system unsuspected; for syphilis would hardly be known (or spoken of, if known,) in the family, whilst cancer, being of such slow and uncertain development, for the most part, might escape or defy detection. The glandular diseases and skin eruptions of a scrofulous origin are not so apt to be overlooked. The same may be said of erysipelas and its congéners. But tuberculosis, in its early stages and various seats, might easily escape notice. Assuming that these, or any other diseases, can by any possibility be inoculated, we cannot be too cautious in this direction. Therefore, *only* the proceeds of primary vaccinations in healthy children of healthy parents and grand-parents (so far as can be possibly known) should be accepted as stock from which to promulgate vaccine protection on any community; and if such cannot be had, it were better to go back to the original source and use the non-humanized cow-pox virus, than run such serious risk. But when such matter can be had, it is worth—

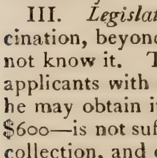
(b) *Preservation.*—Dr. Bolton, after many ingenious experiments in the protection of vaccine crusts from deterioration, finally concluded that the following is the best: First wrap the crust in tinfoil or waxed paper, and then insert it in a little gutta percha ball, made soft by working in hot water until it is as pliable as shoemakers' wax. When the gutta percha cools and hardens it forms a protecting envelope entirely impervious to air and moisture, and perfectly resistant to any ordinary mechanical violence, so that it can be transported across the sea or through the mails without injury. I have used some that he put up in this way after two months, and found it effective.

Another rather curious circumstance (which may be menrioned in passing,) and for which I think Dr. Bolton might have claimed originality, is this: that vaccine lymph is capable of some degree of cultivation. When acting as vaccine agent for the Confederate Government during the late civil war, he was often sorely pressed for a supply of virus. Upon some such occasion he had to resort to the premature removal of some scabs on the fourteenth day. These were used on some of the soldiers, and in their turn were taken off on the fourteenth day, and so on until after several trials: the pustules matured at that age, and were readily removed without any impairment of the constitutional phenomena. He kept up a stock of this virus for a long time, and gave me the opportunity of verifying the success of his experiment repeatedly.

(c) *For the best method of using vaccine virus*, perhaps no appliance has ever been devised which combines neatness, cheapness, convenience, and effectiveness more perfectly than that used by the gentleman whose name has been so often mentioned in these pages. It consists of two plates of very thick window-glass, about 1½ by 2 inches in dimensions, and a common thumb lancet with a bit of the point broken squarely off, thus leaving a sharp angle on each side of the fractured point. This cheap and simple apparatus, with the modifications now to be mentioned, I have found all that could be desired. Let one plate of the glass be a little longer and narrower than the other, and one flat side of each be ground roughly—these will be readily appreciated in their use.

Now for the working of the contrivance: Having a crust of good and safe virus, as much of the scab as is likely to be used shortly is cut off with a knife, to be placed between the two rough surfaces of glass, and ground into a powder; then a few drops of water (q. s. to make a thin paste) is added, and the whole triturated between the glasses by moving the longer and narrower one over the other in a circular direction. When this is ready for use, the lancet comes next, and should be used as lightly as possible on the left arm of the subject, on the depression formed at the insertion of the deltoid muscle in the humerus. It should be so held and applied as to make a number of rapid, light cuts on a small spot until the blood begins to show—not to flow. Should bleeding occur, wait until it ceases before applying the virus paste, which should be dabbed on with the point of the finger and gently rubbed in. The abrasion of cuticle (which is all that is necessary) is much facilitated by holding the patient's arm with the left hand in such a way as to stretch the skin of the arm between the thumb and fingers. Where a number are to be vaccinated at once, it is much more expeditious to make the scratches on all before laying down the lancet, and then apply the virus to the arms in the same rotation. Young children are best vaccinated whilst asleep. If done with proper skill it does not awake them. When done with, the two plates should be laid together with the two ground surfaces in apposition, thus retaining between them the virus that is left, that none be lost; then they may be placed with the lancet in an ordinary card case and carried in the vest pocket. Virus thus carried may be moistened and used at pleasure.

Sometimes when we have a first-class subject, and want all the virus we can get out of it, two, three, and even seven punctured spots are made at once; usually three are best, and made in a perpendicular line, half an inch apart, or a little over. When 7 are wanted, 3 of them are made in the line just described, and 4 more put in on the outside, so as to form a circle around the middle one of the 3, or a square with each other,—thus: all half an inch or more apart. If put too close they will run into each other; if very wide apart, they will be larger than necessary. And it is a fact worth note, that where a number of pustules are formed, neither will be as large as a single one would have been, though in the aggregate considerably larger. It seems to be a law that the more pustules, the smaller they are; the fewer the larger, provided they are formed within a certain radius.



III. *Legislation.*—If there exists any in Virginia on the subject of vaccination, beyond the appointment of a State agent at a small salary, I do not know it. This agent, I suppose is, is required by law to furnish all applicants with virus (such as he can get) at short notice, and from whence he may obtain it! The salary of the agent—which, I believe, is about $600—is not sufficient to enable him to give all his time to the cultivation, collection, and distribution of the virus. Hence, in case of a panic, he must often be put to all sorts of straits and expedients to supply the sudden demands made on him; or, failing to some extent, he is subjected to much undeserved censure. Cannot vaccine laws be so framed and carried out as to encourage the propagation of healthy virus by competent and conscientious men, enforce regular vaccination, and keep the people so well protected that a panic will have no room to breed? Unless this is done, a heavy responsibility rests on each individual member of our profession to do what in him lies to keep up a constant interchange of pure and reliable virus between each other and the State agent. It is obvious that if this were done, very few people would escape vaccination, and such sudden and heavy drafts on the agent would be unknown. Such interchanges of professional courtesies among physicians would greatly enhance their sociability and pleasure, and at the same time do a great public service.

ROOSEVELT HOSPITAL--NOTES OF PRACTICE AND ITEMS OF TREATMENT.

By Dr. Heineman, House Physician.

Cholera Morbus.—Patients admitted with this disease have been uniformly treated by placing them in bed, and administering ipecac, opium and cinnamon in small doses. The following is the prescription which has been commonly employed :

R, Ipecac...................................... gr. ½
Opium.. gr. ¼
Cinnamon...................................... gr. ½ M.

Such a dose is administered every four hours at first, and, as the symptoms subside, once in eight. The ipecac, however, is gradually increased in quantity to one grain, one grain and a half, etc., until three grain doses are reached. The intense thirst, which is quite common in this class of cases, is met with pellets of ice chiefly. Two patients were seen. One had passed about a pint of fresh blood early in the attack. Both were convalescing rapidly.

Croupous Pneumonia—Phthisis.—This case illustrated how well some patients suffering from phthisis will sustain an attack of pneumonia.

A female patient, æt thirty-six, who had a small cavity in the apex of her right lung, was attacked with a pneumonia which involved the lower lobe of the left lung. The acute disease had ceased advancing. Her pulse had ranged from 108 to 118, and the temperature from 99° to 101½° F. The treatment consisted in administering quinine, stimulants, and a liberal diet, and the patient was exceedingly comfortable.

Chronic Dysentery.—The dysenteric symptoms in this, and a number of other cases, had been effectually relieved by the use of thirty drops of fluid extract of ergot three times a day.

Some cases of acute form of the disease, for instance, when the patient had had six or eight passages daily, had yielded promptly to the same plan of treatment. In both instances the patients were kept in bed.

Gastric ulcer.—A male patient was admitted who had unmistakable symptoms of this affection, and had been vomiting almost incessantly for more than a week. The only treatment he received was a tablespoonful of milk every hour. The vomiting at once began to subside, and with the subsidence the amount of milk was increased gradually to half a glass. The patient was feeling well again. The simplicity of the treatment was the noticeable feature.

Double Pneumonia.—There were some features in the following case which are perhaps worthy of note. A male patient, æt. thirty-four, and an habitual drunkard, had been on a spree a week or more, when he was seized with chills and was soon brought to the hospital. At the time of admission there were present evidences of general bronchitis and slight pneumonia. The bronchitis had gradually disappeared, and the pneumonia had continued to extend until it involved almost the entire left lung and the lower lobe of the right. His respiration was forty to the minute when admitted, but had subsided to thirty.

The characteristic expectoration of pneumonia has not been present, which is frequently the case in the pneumonia of drunkards. The pulse and temperature were worthy of note, especially in connection with so large an amount of lung consolidation. Upon admission the pulse was 124, and now, at the fifth day since admission, it numbered 108. The temperature had ranged from 99½° to 100¼° F., and at the fifth day stood at 100° F.

The patient, notwithstanding his habits, had had wet cups (3) applied over the sternum, with dry cups over the entire chest, posteriorly, and the abstraction of this small quantity of blood had been attended with good results. The treatment in other respects consisted in the use of six grains of the sulphate of quinine three times a day, an ounce of brandy every hour, at first, and carbonate of ammonia. The patient looked very comfortable, and the indications were that he would recover, although the consolidation was quite extensive.

PERITONITIS—HYPODERMIC INJECTIONS.—As soon as symptoms of peritonitis were developed the administration of opium was commenced; but the respiration of the patient remained unaffected, although the pain was overcome. No symptoms of narcotism manifested themselves; but, on the contrary, the patient was quickly aroused by the most trifling disturbance. Hypodermic injections of morphine were substitured for the aqueous extract of opium, the preparation that had been previously employed in the treatment of the case, and the effect was to reduce the respiration from thirty to sixteen to the minute within twelve hours. The hypodermics, were discontinued, and the extract again employed, but the respiration increased in frequency until the injections were again resorted to. That patient recovered.

ORIGIN AND TREATMENT OF PURULENT OPHTHALMIA.

In the *Wiener Medizinische Zeitung*, May 25th, Professor Arlt brings to an end a series of papers upon purulent ophthalmia, and in a short *resume* thus sums up the conclusions at which he has arrived Although purulent ophthalmia very commonly appears among the members of communities, yet it not unfrequently attacks the eyes of individuals among the poorer and lower classes, who are already suffering from any of the milder forms of ophthalmia; it matters little what the nature of this may be, whether it be granular or trachomatous, or any other variety of the inflammation; it may appear after a long or a short interval, and it may lead to rapid destruction of the eyesight by invading the cornea, or to its slow and gradual extinction by causing trichiasis and entropium. In many cases minute grayish bodies may be seen on the under surface of the upper lid, and especially in the mucous membrane above the lid. The ophthalmia is generally acute if it be caused by inoculation from the genital organs, but it is usually chronic when it spreads from eye to eye, or when it is brought about by exposure to draught. The activity of the contagious matter depends much upon the concentration of the material, and upon the length of time during which the conjunctiva is exposed to its influence; the power is favored by heat and retarded by cold. The occurrence of one single case within a community may lead to the appearance of an epidemic, the contagion being conveyed as much by the air as by all kinds of instruments and utensils, more especially when the weather is warm and moist. It appears that the disease may have its origin in atmospheric influences alone, such, for instance, as sudden changes of the weather, and if the air be chaged with dust or smoke. According to Professor Arlt, it is not certain that purulent ophthalmia is more rife among military than in civic communities, nor does it appear to him conclusively shown that the disease had its origin Egypt, inasmuch as Egypt was esteemed by the Greeks and Romans as a very healthy country, and the assertion that Cyrus applied to Egypt for the aid of physicians does not prove more than that the Egyptians in those days were a cultivated people, and were in a position to afford the assistance which was asked. There is no reason to suppose that there is any change of structure in the eyes of scrofulous subjects which should render them especially liable to the disease.

In conclusion, as regards treatment, Professor Arlt is quite at a loss how to suggest any safeguards against the disease; for, although we look upon it as contagious, we cannot isolate all or any who have been exposed to it, and it very frequently happens that those who have been exposed are utterly unaware of the fact, and but too often unwilling to submit to any treatment until the disease is far advanced, and according to our present knowledge it would be quite impossible for medical men to examine the eyes of all of those under their care, and who may in any way have enposed themselves, or whose eyes may at any-time become attacked.—*London Med. Reeord*, Aug. 16, 1875.

A NEW METHOD OF HEALING ULCERS.

Dr. Nussbaum claims to have successfully treated upward for sixty cases of chronic, extensive, and otherwise intractable leg ulcers, by the following simple procedure: The patient is first etherized, and then around the ulcer of the leg or foot, a finger s breadth from its margin, an incision extending down to the fascia is made; numerous blood-vessels are divided, and a severe hemorrhage ensues, unless a fine pledget of lint be packed into the cut and the entire ulcer strongly compressed. The packing with lint is also necessary to prevent union of the cut edges by the following day. Upon the second day the bandage and lint are removed; from then until a cure is effected a simple water-dressing is applied.

The author states that an astonishing change can be seen, even in the first twenty-four hours. The ulcer which yesterday threw off quarts of thin, offensive, inchorous pus, furnishes to-day not more than a tablespoonful of thick, non-offensive, healthy pus. The old ulcer becomes rapidly smaller, healing from the margin towards the center, and is healed up in a short time; but the cut is changed into a broad, circular sore, which also rapidly cicatrizes.

The great diminution of the secretion, and other favorable changes occurring in the ulcer, find an explanation in the fact that the circumcision has divided dozens of large abnomally-widened blood-vessels. Time is thus given for the lessened nutritive material, which was previously carried off by the excessive secretion, to be formed into cells and connective tissue; in other words, granulations are formed, which fill up and heal the ulcer. Without claiming this as a radical method, the author assures us that the cure is much more rapid and the cicatrax becomes more elastic and resisting than in ordinary means applied, which usually require so much time that the patients depart with half-cured ulcers, soon finding themselves in their previousy deplorable condition.—*Philadelphia Medical Times.*

OVARIOTOMY PERFORMED TWICE IN THE SAME PATIENT.

Mr. Spencer Wells relates (*Obstetrical Journal of Great Britian,* July, 1875), the case of a young woman, aged 32, from whom he removed a multilocular cyst of the right ovary, and applied a clamp upon a broad, short pedicle. She recovered without unfavorable symptom, although the wound was rather slow in healing, owing probably to the neighborhood of the cicatrix left after the removal of the other ovary five years previously.

"The first operation was performed in May, 1870. An ovarian cyst of very rapid growth, and extensively adherent to the abdominal wall and to the omentum, was removed. A very short pedicle on the left side was tied in two portions with whipcord. The ends of the cord were cut off close to the knots, and returned with the pedicle. Several silk ligatures were tied to bleeding shreds of omentum and returned. Projecting from the right ovary was a cyst as large as an orange. This was laid open by an incision, emptied, and returned with the rest of the ovary, rather than remove it, as it appeared to be healthy. The solid part of the tumor removed weighed 3 lbs., and the fluid contents measured 8 pints. She suffered a good deal after the operation, from pain and vomiting, till the fifth day, the temperature rising to 101.4°, and pulse to 124, but she made a good recovery, and went to Ramsgate twenty-four days after the operation. She remained in good health for four years, earning her living as a dressmaker, and menstruating regulary until a year ago. Then the abdomen began to enlarge and menstruation became irregular, recurring at intervals of two or three weeks, and with much pain on the *left* side of the abdomen. The increase was not nearly so rapid as with the other cyst, but the abdomen was so large in May that I removed the tumor on the 2d of June as you saw. The incision was carried about a half an inch to the right of the former cicatrix. On dividing the peritoneum, some omentum (which was adhering in some places to the cicatrix) protruded. On pushing this aside a free cyst was tapped, emptied, and drawn out. A short pedicle on the right side was secured in a middle-sized clamp, and kept out with some atraction. Two vessels in the separated omentum were tied. At the right of the left ovary there was a small, hard substance, doubtless the whipcord which secured the pedicle at the first operation. I saw nothing of any of the silk ligatures which had been applied to the omentum. The cyst was nearly single, only weighing 9 ounces. It contained 8 pint of fluid. She recovered without any sickness, with much less pain than after the first operation; the temperature not rising over 100.8,° and the pulse being generally about 88, the highest 108.

"At the first operation I was doubtful if I should remove both ovaries, as the second contained a cyst. I preferred only to lay open the cyst, for seveal reason. She was then only 27 years old, and might marry. The rest of the ovary was healthy. I had seen other cases where patients had married and borne children, although I had punctured cysts in the remaining ovary, and where there had been no return of disease, and I did not wish to add to the risk of the single ovariotomy by removing the second ovary. If she recovered the ovary might remain healthy. If it became diseased it might be removed. Actually, it did remain for four years without any sign of disease, and when it did enlarge it was removed. This is, I think, the safest course to pursue in similar cases. In my book on diseases of the ovaries, any of you who are interested in this subject may find a chapter on the removal of both ovaries at one operation: and another chapter on ovariotomy performed twice on the same patient. Of four cases in which I had performed the second operation, at the time of publication in 1872, two recovered and two died. In one case the first operation had been performed by Mr. Baker Brown. So that of 500 cases of ovariotomy in my own practice, in only three had a second operation been called for. Since June, 1872, I have done more than 200 more first operations, bringing the number to 710, and I have only had one other case besides this one of second ovariotomy. That was a young lady, a patient of Mr. Bishop of Tunbridge, who also recovered quite as well as after the first operation. Thus the total number of cases of ovariotomy performed by me for the second time on the same patient amounts to six, with a result of four recoveries and two deaths."—*Medical Science.*

Microscopy.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

The regular meeting of the San Francisco Microscopical Society was held on Thursday evening, Oct. 21, and the rooms were crowded with members and visitors, who enjoyed a most pleasant evening. President Ashburner was in the chair, and in addition to the members of the Society, Messrs. Dr. Wm. H. Jones, of the U. S. S. *Portsmouth*, S. B. Christy, of Berkeley, and N. Newmark, of this city, were visiting.

Mr. J. Edwards Smith, of Ashtabula, Ohio, was proposed for corresponding membership.

A portion of the surplus funds of the Society has been devoted to the purchase of books, and it is the purpose of the members to have, as soon as possible, a complete library of microscopical literature. Toward this end, the Corresponding Secretary, Mr Banks, announced the receipt of 8 volumes of "Science Gossip," 22 volumes "Quarterly Journal Microscopical Science," and 13 volumes of "Popular Science Review." There were also received by subscription, the last numbers of *Grevillea*, *Journal Quekett Microscopical Club* and *Monthly Microscopical Journal*, and by donation from the publishers, the October number of the *Overland Monthly*.

The object cabinet was most handsomely enriched by donations both great in variety and number.

Mr. Ashburner started out with a presentation of twenty-seven slides, mounted by him, with diatoms from as many localities, mostly from earths sent the society by Mr. Arthur M. Edwards, one of the societies' corresponding members, and this was followed by the donation of five slides of rock sections by Mr. Attwood from the foot-wall, hanging-wall and "horse" met with in the Gold Hill end of the Comstock vein, at a depth of 1400 feet. Mr. Attwood promised also to present an additional number at the next meeting from the north end of the vein, and he will then accompany the same with a paper which will no doubt be very interesting and useful in its suggestions.

Mr. Kinne donated a slide mounted by him with specimens of the *phylloxera vastatrix*, now being cultivated in this State, under protest, and exhibited from his cabinet a slide mounted by him, with a number of insects commonly known as the "woollylouse" which infests the pear and other trees. The great similarity between the two was noted, and particularly in the construction of the proboscis.

Dr. Burgess handed in a slide which he had mounted with a portion of psuedo-membrane from the intestinal canal, and Mr. J. P. Moore added to the list in the way of a slide mounted by him with a transverse section of *myrica Californica*, California myrtle, and two, with both transverse and longitudinal sections of *pachystina myrsinites*, or false myrtle.

Mr. Ewing presented as material for mounting, sand from Feather river, Plumas county, Cal., showing quartz crystals; and Mr. Henry Edwards added to the cabinet some thirty species of lichens from various parts of Australia.

Dr. Harkness exhibited a beautiful specimen of *mucorini*, growing upon a variety of the capsicum. Long silvery filaments were attached to the substratum by root-like branches, each surmounted by a globular sporangium, which was filled with innumerable spores. The mucorini may be found in great abundance at this season of the year on decaying fruits and vegetables, in whitish tufts, which turn black at maturity.

Dr. Harkness also exhibited the spermagonia of a new variety of trichobasis, found on the *darlingtonia Californica*, (specimens of which were exhibited at the late Mechanics' Fair), and which appeared in dark brown spots on the surface of the plant, and was shown by a vertical section through the leaf. The spermagonia was seen in urn-shaped receptacles between the cell structures, the receptacle being filled with exceedingly minute threads, which force their way through the epidermis of the leaf. The bottom of this receptacle is covered with short mycelial branches, from the ends of which are detached numerous very small spore-like bodies—*spermatia*.

A very interesting and instructive meeting of the San Prancisco Microscopical Society was held on Thursday evening, Nov. 4, and aside from the matters brought up and passed upon in their order, other important subjects were discussed and referred to committees to report at the next meeting.

President Ashburner was in the Chair, and in addition to resident and honorary members, Messrs. Lovell White, of that city, Chas. E. Putnam, J. Duncan Putnam, and Dr. C. C. Parry, of Davenport, Iowa, were present as visitors.

Mr. J. Edwards Smith, of Ashtabula, Ohio, was elected a corresponding member of the Society.

Under the head of additions to the Library, the CINCINNATI MEDICAL NEWS and a copy of *Nature* were received by subscription, and four volumes by purchase, viz: "Insects injurious to Vegetation," Harris; "Manual of Histology," Stricker; "Histology and Histochemistry of Man," Frey; and "Text Book of Botany," Sachs.

Mr. C. G. Ewing donated a slide mounted with a section of an ear of trichinous rabbit, which showed the encysted parasite very clearly. Mr. J. P. Moore donated two slides mounted by himself with longitudinal and transverse sections of *Rhododendron Californicum*, or California Box Bay. Mr. Hy. Edwards presented a beautiful specimen of Actinolite (?) from Lubeck, Germany.

Dr. Harkness exhibited what proved to be an undescribed species of *artemia*, which was found near the middle of Great Salt Lake, Utah, upon and near the surface, by Mr. Henry Harkness, and upon which Mr. W. N. Lockington, of this city, presented the following paper:

A PHYLLOPOD CRUSTACEAN.

A phyllopodus crustacean from Great Salt Lake, Utah, nearly allied to the *artemia Salina*, which inhabits the salt pans in which brine is undergoing concentration, and is found at Lymington, England, and other places, was presented to me by Dr. Harkness, to-day, for examination. I take great pleasure in submitting a description of the same. The inferior antennæ, in the male, are two jointed. The fasal joint, with a short rounded process (in *artemia salina* this is conical); the joint itself thick and rounded; the second or terminal joint broad and fan-shaped, and the whole antennæ somewhat resembling the mandible of a stag beetle in general appearance; the inferior antennæ in the male, and both pairs in the female slender and filiform; thorax with eleven pairs of branchiæ eyes on short peduncles; abdomen nine jointed; the end joint two-lobed, each lobe bearing a variable number of setæ (4—6); color, a dark purplish brown. From the locality in which it was collected, it is proposed to name the species *Atemia Utahensis.*

Letters from Mr. John Pierce, Secretary of the Microscopical Society of Providence, R. I., and from Mr. George Foord, of Melbourne, Australia, were read, after which a paper prepared by Mr. J. Edwards Smith, corresponding member, was read by the Secretary, which covers considerable of the ground on which the tilts of the champions of various objectives have been made, and was self-explanatory.

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tennæ, in the male, are two jointed. The casal joint, with a short rounded process (in *artemia salina* this is conical); the joint itself thick and rounded; the second or terminal joint broad and fan-shaped, and the whole antennæ somewhat resembling the mandible of a stag beetle in general appearance; the inferior antennæ in the male, and both pairs in the female, slender and filiform; thorax with eleven pairs of branchiæ; eyes on short peduncles; abdomen nine-jointed; the end joint two-lobed, each lobe bearing a variable number of setæ (4—6; color, a dark purplish brown. From the locality in which it was collected, it is proposed to name the species *Artemia Utahensis.*

Letters from Mr. John Pierce, Secretary of the Microscopical Society of Providence, R. I, and from Mr. George Foord, of Melbourne, Australia, were read, after which a paper prepared by Mr. J. Edwards Smith, corresponding member, was read by the Secretary, which cover considerable of the ground on which the tilts of the champions of various objectives have been made. [This paper is published in another part of the NEWS.]

FAIRMOUNT MICROSCOPICAL SOCIETY OF PHILADELPHIA,

This Society held its regular monthly meeting at the residence of Mr. B. F. Quinby, on Walnut street, on Thursday, Dec. 16, 1875. The President, Dr. Griffith, in the chair.

Resolutions were offered in regard to the death of the late Thos. H. Saunders, a former member of the Society.

Six names were added to the present large list of members.

A new Ross Model instrument was exhibited, which attracted no little attention from those present. Quite a number of beautiful preparations were exhibited, after which the meeting adjouned.

W. C. STEVENSON, Jr., Secretary.

DUNKIRK (N. Y.) MICROSCOPICAL SOCIETY.

The regular monthly meeting was held Friday evening, December 10, 1875. President Blackham in the chair.

After the transaction of routine business, the following pieces of new apparatus were presented for examination.

BY M. ADAMS.—1. A Hartnach No. 1. two-inch objective; 2, a new self-centering clip, for a turntable—devised by Dr. C. P. Alling and himself—consisting of two parallel bars of brass connected by smaller bars after the manner of the parallel ruler, the smaller bars being fastened to the revolving disk by rivots through their centers, the pivots and the center of the disk being in line. The principal bars can be set at any distance from each other up to 1½ inches, and, moving reciprocally, insure the exact centering transversely of a glass slide of 1½ inches width or under, which is held firmly between them. This plan was considered by the society preferable to any heretofore suggested.

BY DR. GEO. BLACKHAM.—1. A blue glass cap for moderating light, fitting into the sub-stage collar in place of the diaphragm. He reports it a convenient accessory for use with lamplight.

2. A new No. 3 eye-piece, with micrometer, recently made for him, by Wm. Wales, of Fort Lee, N. J. This eye piece with Wales'

immersion 1-10th gives amplification (on Queen's Student Stand) of 1500 to 1700 diameters according to position of cover adjustment. The micrometer, which is removable, is ruled to the 250th of an inch, every fifth line being longer than the intermediate ones, and every tenth line being still longer. The value of each division is $\frac{1}{15000}$ inch when the amplification is 1500 diameters.

The following new objccts were psesented for examination.

By M. Adams.—1. A specimen of rare formicaria; 2, a specimen of rare pseudo-scorpio; 3, eggs of cimex lectularis which he had mounted in balsam.

By Dr. C. P. Alling.—1. A portion of cornea of musca domestica; 2, sting of wasp; 3, club shaped antenna of gnat; 4, ora of dog flea (pulex canis) showing embryo which he had mounted in balsam.

By Mrs. Wm. H. Wyman.—Specimens of sand from lakes Michigan and Erie, unmounted.

SPERMATOZOA FROM HYDROCELE OF EPIDIDYMIS.

[Read Before the Memphis Microscopical Society]

By S. P. Cutler M. D., of Memphis, Tennessee.

Operation performed June 1, 1875—an ounce and a half of fluid drawn off. Some of this fluid was sent to me for microscopic examination the same day. The fluid contained myriads of spermatozoa, very active at first, soon after the operation, but before night they became inactive, and for three days but few of them showed signs of life. About the fifth day they became more active than at first, all seemed to be endowed with more or less activity; some very active, wrigling about at a furious rate, as though on a regular bender. They evidently were not happy, and no doubt some might have committed suicide had they any means of doing so; many had lost their tails; some would spin about like a bat flying. The weather was cool for June.

June 9. Weather warm, fluid began to smell badly, spermatozoa about as active as twenty-four hours before, and some other minute organisms were visible at this time.

June 11. During the last twenty-four hours fluid not changed in appearance, only smelt worse; weather 85° F. Spermatozoa just about the same, some very active and frisky.

June 12. Not much change, about the same activity.

June 13. Activity about the same, they appeared to be rather smaller and their tails rather shorter; fluid still more offensive.

June 14. They were perceptibly smaller, still active.

June 15. No change, only smaller and shorter tails, the nucleus continues intensely bright, of a pea green color.

June 19. Temperature 80 to 90°. Specimens examined each day, showed no change only in size, which have diminished from day to day; scarcely any tail visible, only the bright nucleus, which has not diminished at all.

June 21. They have lost all but the nuclei or bright speck; no signs of any tail, and their motions are changed from vermicular to molecular motion or brourian motion. In three weeks time these minute germs have undergone change in size, shape and motions without actual decomposition, only a gradual wasting of all but the nucleus, which has remained precisely the same throughout, while the fluid has become disgustingly offensive and putrid though not much changed in appearance.

Now, in these experiments, the results were wholly unanticipated; but whether of any actual use or benefit or not I am unable to say. All these observations were conducted with the greatest care throughout, and to me they are very suggestive. Whether or not they left the germs where they first started from, who can tell?

The nuclei average by actual measurement from $\frac{1}{8000}$ to $\frac{1}{20000}$ of an inch in diameter, as near as I could ascertain, and they were on an average much smaller than those seen from a similar hydrocele; in this specimen they all died out in two days and disappeared altogether. The nuclei governs the size of the germ, and length of tail; the larger the head the longer the tail. Whether or not the size and vigor of these things govern in any respect the future individual remains to be discovered.

Subsequently I examined some fluid from a hydrocele of the tunica vaginalis testes. In this there were no spermatozoa. As might have been predicted, there were numerous epithelia and crystals of cholesterine, very beautiful, thin tables or plates, some square, others oblong, perfectly transparent. Beale gives these forms of crystals in urine from fatty degeneration of the kidneys, heat coagulates the albumen. The man was about 50 years old, and about a pint of the fluid taken. On adding creosote to the fluid containing spermatozoa it turned it milky white, and arrested all motion at once; chloroform clouded the field, and all motion arrested; alcohol stopped motions, and contracted their size and caused them to run together into masses, though some retained slight motions. These experiments were made early before putrefaction set in.

MICROSCOPY IN ENGLAND.

The following letter is from an eminent microscopist of England, who has written much upon the subject to a friend in this country:

"You ask me what I think of the aperture question in the *Monthly Microscopical Journal.* There are two aperture controversies on hand, the one relating to the best aperture for general work, the other is the balsam aperture question. Well, as to the former, I think Hon. Sec. Slack has been handled very freely, and that he has come out of the affray with discredit. His absurd statements on the theory of aberrations could not fail to provoke criticism. You Americans will wonder how it is that the Hon. Sec. of a quasi learned society in London should be so indifferently qualified to write on the subject which it is the professed purpose of the Society to encourage. * * * * Here in England, it is not at all necessary that an official should possess superfluous erudition on his subject, provided he can ring the changes on a few stilted high-sounding phrases so as to *appear* to know something, he may safely trust to filling up his official character by judicious evasiveness. I need scarcely tell you that Hon. Sec. Slack is an adept in this latter item. * * * *

"You inquire what is a fair limit of magnification combined with definition, with any lens I have seen here. With Nobert's 19 band platte as the *test,* I have never seen a lens that would give more than fifteen-hundred diameters on the 12th band, or more than one thousand on the fifteenth. And I have had experience with lenses of varying focal lengths from $\frac{1}{4}$th to 1-25th, both dry and immersion, by all the known European opticians. * * * When we are seeking exactness of statement as to how far amplification with definition is obtainable with microscope lenses, and we meet with a reference by Wenham, in the *Micro-Jour-*

nal No. XIX p. 18, to a photograph of *P. angulatum* magnified 'fifteen thousand diameters' produced by him before 1854, we amateurs of definition understand such an amplification to have exceeded all reasonable limits of definition with the optical means then available. In Wenham's quotation of the description of his photograph we see prodigious display of personal satisfaction with his own bygone achievements in microscopical amplification of the magic lantern species, and we dismiss it with an earnest hope that he will never again allude to it as evidence that *definition* was the criterion by which he then judged of microscopical images." * * *

"You are right in your observation that Wenham does not want to admit the testimony of his reflex illuminator against the position he has assumed in the balsam aperture question. I think his authority in microscopy is waning. He has said much—overmuch as some think—on many branches, and through all his utterances there has been ever present a tone of self-praise that, to say the least of it, is wearisome. * * * Perhaps you may remember that he has put on record in the *Micro-Journal* that he is usually either too indolent or indifferent to make public demonstrations in order to disseminate his notions? In this balsam aperture question it appears to me he has been neither *indolent* nor *indifferent* in making *public demonstrations*. I fear the indolence or indifference has been rather the fitting designation of the condition of the spectators. His evasion of the theoretical and experimental proofs adduced by Prof. Keith and Dr. Woodward (both of America), and the eagerness with which he has tried to conceal his defeat by changing his antagonist, go far to show that he has not been candid in the discussion. Many of us think he has had fair-play with *over-measure* in the *Micro-Journal*, if with all this advantage he has not succeeded in proving his position, it must be owing to its intrinsic feebleness. That he should speak of himself as *unbiased* in favour of any optician's work is ridiculous to those who know that he receives an honorarium of some hundreds of pounds a year to be *biased* in favour of the house of Ross." *

BATTLE OF THE OBJECT GLASSES.

Read Before the San Francisco Microscopical Society by J. EDWARDS SMITH, of Ashtabula, Ohio.

"The Battle of the Object Glasses" seems to have broken out again in a new form.

The naked points at issue in the present controversy may be expressed thus:

First—Can medium power objectives be made to do the work usually assigned to the highest powers?

Second—Will wide angled glasses do the work generally assigned to those of low or moderate angles?

These points are of more than usual interest, having been the subject of much discussion during the past eighteen months on this side of the Atlantic.

It is, I believe, known to you that I have taken the affirmative of both the propositions above named, and have discussed them at length in a series of papers entitled "High vs. Low Angles," published in the CINCINNATI MEDICAL NEWS.

In the Spring of 1874, I recived from Mr. R. B. Tolles a 1-6th object glass, marked 180° of air angle. This glass Mr. Tolles has since informed me was similar to the 1-6th sent to London and purchased by Mr. Crisp. Mr. Tolles did not call this 1-6th a "four system," nor a "duplex;" he did call it a "new optical machine."

With this glass, kerosene hand-lamp and concave mirror (no sub-stage applicances) I went through the Moller probe plate in less than fifteen minutes, and without stop, hitch or hindrance, seeing the striæ strongly in Nos. 18, 19 and 20.

In a few weeks I received from Mr. Tolles a 1-10th duplex front. This glass I thought to be slightly superior to the 1-6th, but it required quite different handling.

With a determination to test these object glasses, I worked them six and eight hours daily for some two months. The result was that I became thoroughly convinced that the 1-10th would excel any higher power glass I had yet seen, either by central or oblique light.

(Your members are familiar with the work of Mr. Morehouse's Tolles net 1-50th.)

I applied to Mr. Morehouse for the loan of his 1-50th, Mr. Morehouse promptly responding, the two objectives were soon subjected to a rigid comparison. The result was that the 1-50th came off second best. The superior excellence of the new 1-10th being decidedly apparent either by central or oblique light.

These observations were shortly confirmed by Mr. Morehouse himself and printed in the *Naturalist.*

Desiring still farther to test the capacity of the 1-10th, and being advised that my friend Mr. A. F. Dod (Secretary of the Memphis Microscopical Society) had purchased a similar 1-10th, I requested the Memphis Society to make comparisons of any of their low and medium angled objectives ("be it a 1-5th or 1-50th") with the Dod duplex 1-10th. The Society appointed a committee of three to conduct this test. The result was a complete victory for the duplex 1-10th, and the verdict of this Committee has been (in part) published in the *M. M. Journal.*

In further support of the capacity of the "four system" glasses to compete with the finest productions of eminent London opticians, I call attention to the fact that Mr. S. Wells, of Boston, recently imported one of the latest Powell & Laland 1-16ths. This glass was compared by Mr. Morehouse with his Tolles' 1-10th. The 1-16th proved to be twice the power of the 1-10th. Notwithstanding this, as also the fact that the P. & L. 1-16th proved itself to be an exquisite instrument, Mr. Morehouse was compelled to decide in favor of the 1-10th, and Mr. Wells subsequently confirmed in public print Mr. Morehouse's verdict.

I may further add, that to this date, further experience and observation with the duplex fronts ("180°") confirm my opinions, as printed in the CINCINNATI MEDICAL NEWS.

Messrs. Dallinger & Drysdale (see leading article in September *M. M. J.*) in the most involuntary manner bear vigorous testimony and to the points at issue. Surely these gentlemen, who have labored so patiently and have won the admiration of all, will not be accused of misrepresentation.

Now these gentlemen (I refer to pp. 106 and 107), *after 'they could make no further progress*" (italics mine) with the 1-50th proceed to detail the performance of their new Powell & Lealand 1-8th. First. They saw amphiphleura Pellucida in "*beads*" (Mr. Morehouse and myself saw the same in 1873, working independently of each other—vide *M. M J.*, July, 1874, p. 23). For myself, I have to thank Messrs. Dallinger & Drysdale for their confirmation of my past work.

Secondly—With the P. & L. *new* 1-8th these gentlemen saw "distinctly" the "flagellum," *which had effectually resisted the work of their 1-50th!* This, too, when the 1-8th was a new glass, while the 1-50th was a familiar favorite.

The present controversy differs conversely from its predecessor; during the aperture question, "performance" was barred out by Mr. Wenham; nevertheless, the performance of Mr. Crisp's 1-6th occasionally got *grievously* into print. Passing over such words as "notorious" and "much vaunted," I refer especially to Mr. Wanham's report that "the object-glass (1-16th) was first tried on such tests as required *large aperture* for their determination. I could *glimpse* striæ of equal difficulty in Moller's proof slide with another object-glass of 120°." (See March, 1874, *M. M. J.*, p. 113.)

I read this with quite as much astonishment as did the engraved "180°" afford Mr. Wenham.

I have examined some half-dozen of these 1-6's owned by my friends, and with either of these glasses, lamp light and mirror alone, can show Nos. 18 and 19 *instantly and strongly, and to a novice*; nor will the practical observer have any difficulty with No. 20.

In conclusion, I venture to affirm that recent improvements in the construction of object-glasses call for important modifications of theory and practice, as formerly taught and accepted.

Clinics Cincinnati College of Medicine and Surgery

CLINICAL LECTURE.

By A. J. Miles, M. D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine and Surgery.

Reported by T. M. Wittkamp, A. M., M. D., Dispensary Physician.

Gentlemen of the Class.—The dispensary physician tells me there are some patients at the dispensary to-day complaining of dysmenorrhea. This is very opportune as it will enable us to continue the subject of deranged menstruation.

You will give your attention while the doctor reads the history of

Case I.

Mrs. S., age 27; German; has one child, 10 years of age. Her father died of some unknown disease. Her mother died of phlegmasia dolens. Has three sisters, all of them in good health. She herself has always been in good health until her menses made their appearance, which was about the age of 15 years; from that time on she did not feel very well, but her troubles did not amount to much until the age of 17, when she gave birth to her boy. She then, as far as I understand from her statement, had puerperal fever, but since that time she has been having excruciating pain during menstruation.

Case II.

P. C., a woman of average height, dark complexion, full face, fairly nourished, poor appetite, bowels somewhat costive, tongue moist and slightly coated white, pulse weak, regular, 70, slight frontal headache, pain in the small of her back, likewise pain on urinating, and frequent desire to do so. Courses are regular, but intense pain for a day or two before and for a period of at least three days after the commencement of the flow; the duration of the flow is usually one week. At certain times, generally between the menstrual period, she is seized with convulsions. According to her husband's statement these fits come on about ten or twelve hours after coition. At the time of connection she does not complain of much pain, but about three or four hours after she has a severe headache, feels languid and weak; these are generally the forerunners of these spasms, and cause her husband very often to abstain from the bliss of marriage.

When she has these convulsions she complains of intense pain in her back, lower part of the abdomen, more so in the region of the left ovary, extending down the inner side of the left thigh to the knee. She is unconscious at times; cries out; spasms of the arms, rather more of atonic variety; pupils are normal in size but fixed; these spasms may last one or two hours. These convulsions are likewise brought about by anger; and may be cut short by applying some warm fomentations over the abdomen. On walking or standing on her feet she complains of severe dragging sensation in the lower part of the abdomen. At times she has vertigo and palpitation of the heart, and she feels as if she would die every minute. Physical examination of chest shows nothing abnormal; digital examination, shows vagina moist and somewhat rough; cervix low down, about 1½ inch from the outlet, and very hard; fundus of uterus pressing against the bladder. There is considerable pain on introducing the speculum. Walls of vagina are red, granular in places, and a few spots of ulceration may be seen, the rest is bathed with mucus. Cervix is covered with a strong albuminous discharge, is enlarged, indurated, and the whole os and cervix is ulcerated. On introducing the sound she complains of pain, and blood flows very profusely; when it enters and strikes the walls of the uterus she has a very acute pain.

It can readily be seen from the history of this case that there is sufficient cause for the dysmenorrhea in the extensive disease of the uterus. Dysmenorrhea does not always result from the same disease, but from a great variety of diseased conditions, not only of the uterus, but of other parts of the genito-urinary organs. In this case dysmenorrhea evidently results from the diseased uterus. In the second case I wish to present, there is seemingly no disease existing in the uterus, but it is located in the ovary, and gives rise to a more painful menstruation than the first. The briet history of the case is this: Mrs. K., American, aged 30 years, mother of two children, the last one 8 years old; is a well developed muscular woman. Four years ago I treated her for endometritis and prolapsus uteri from which she recovered in a few months, and continued well, and there does not now seem to be any disease or displacement of the organ. One year ago she began to have painful menstruation, the seat of the pain being over the left ovary. About three days before the menstrual flow begins she suffers constantly with severe pain over the left ovary which becomes excruciating at times and increasing in intensity until the flow begins, when it gradually declines. There is much tenderness on pressure over the seat of pain, with perceptible swelling in the left iliac fossa, just over the seat of the ovary. The day preceding the flow, the swelling develops a tumor about as large as a hen's egg, which gradually disappears after the flow is established. Since she has had this ovarian pain the period of the flow has increased from three to six or seven days. The suffering deprives the patient of sleep, has deranged digestion, and produced general nervous prostration and debility.

Gentlemen: It is to be seen from these cases and others that we hope to present at our next clinic, that a diversity of diseased conditions of the genito-urinary organs may produce the symptoms called dysmenorrhea. One condition may be from displacement or flexion of the uterus; another from fibroids, polypus or malignent tumor; another from endometritis, metritis or ulceration of the os and cervix; or again from periuterine cellulitis and pelvic peritonitis; or it may be from nervous derangements of the organs; or perhaps a combination of some of these conditions that results in dysmenorrhea. From such diversity of cases, we have also diversity in the character of the pain and obstruction, which gives us the different varieties or forms of dysmenorrhea, with symptoms peculiar to each variety.

The term *dysmenorrhea* is used to express that condition of menstruation attended with difficulty and pain. This is a very *frequent* affection, as it is symptomatic of a large variety of morbid conditions.

The *pathology* of this affection should next be considered. When menstruation is normal it occurs without creating other discomfort than a general sense of lethargy, fullness about the pelvis, and sometimes slight pain in the back and loins. But if an abnormal condition should exist affecting the structure of the uterus, the ovaries, or the surrounding tissues interfering with the free circulation of the blood, or rendering the nervous supply of those parts morbidly sensitive, then menstruation is more or less impeded, and excessively painful, and hence receives the name of dysmenorrhea, meaning, difficult menstruation. The *seat* of *pain* in dysmenorrhea is generally in the uterus, ovaries, or surrounding tissues of the pelvic viscera, except in the neuralgic variety, when it may be in any part of the body.

Dysmenorrhea may be *classified* for the purpose of study under the following heads: 1, neuralgic or sympathetic; 2, congestive; 3, inflammatory; 4, obstructive; 5, membranous, and 6, ovarian.

The *neuralgic* variety of dysmenorrhea depends on a peculiar state of the nerves, which, under disordered conditions of the circulation or general system, without any appreciable organic disease of the uterus or its appendages, results in pain.

The *causes* most frequently present inducing this painful condition of menstruation are the neuralgic diathesis; malaria; gout and rheumatism; chlorosis or plethora, and habits that weaken the nervous system. Different disordered conditions of the general system may so affect the uterine nerves that pain results from the ordinary menstrual congestion.

The *symptoms* most prominent in this variety of dysmenorrhea is pain, more or less severe, over the pelvis, or loins, or it may be in some distant part of the body. The pain may commence with the menstrual flow and continue until its close, or may occur before the flow commences and stop as soon as it comes on. The pain, instead of being in the pelvis, in or around the uterus, may be in the knee, hip, toe, finger, nose or other exterior situation, recurring in that situation at each monthly epoch until the flow is established or has entirely subsided.

In the *differentiation* of neuralgic dysmenorrhea from the other varieties we can easily distinguish it from the inflammatory by the absence of inflammation both during and in the intervals of menstruation. It is different from congestion by its being habitual and by the absence of constitutional disturbance. It is distinguished from the obstructive by the flow being steady, not interrupted, and no clots discharged by spasmodic effort as would be in that variety.

The *prognosis* depends upon the nature of the constitutional cause, and our power by remedies, or the alteration of the habits of the patient, to effect a permanent change in the system.

The *treatment* will depend very much upon the cause operating in each individual case. If it is the result of malaria it should be treated with quinia, iron, with an occasional anti-bilious cathartic, and change of residence. Malaria often manifests itself only in the form of neuralgia, which may be the chief source of the disorder. Where it is caused by rheumatism or gout, we should resort to alkalies, colchicum, guaiac, warm salt baths. Flannel should be worn, and the patient sent to a warm climate for the winter. If the nervous system is deranged by habits of luxury or dissipation, the patient should be sent to the country, take moderate out-door exercise and live on plain diet.

Plethora should be treated by a non-stimulating diet, cathartics and occasional venesection; while chlorosis requires a nutritious diet, nervous tonics, fresh air and cheerful surroundings. In cases where the pain returns at each monthly period, notwithwithstanding the seeming good health of the patient, a sea-voyage will often entirely revolutionize the system and perfect a cure. It is often necessary to give something to relieve the intensity of the pain during the attack. For this purpose an occasional dose of opium may be required, or, where it disagrees with the patient, cannabis indica, hyoscyamus, belladonna, or hydrate of chloral may be resorted to.

Local treatment may be advantageous although there is no appreciable local lesion. The occasional introduction of a sponge, or sea-tangle tent or the uterine probe may break up this local habit of nervous suffering. Galvanism may be advantageously resorted to, especially the retention in utero of the galvanic pessary. Parturition in many cases produces a radical cure.

Gentlemen: We will next consider *congestive dysmenorrhea*. During menstruation there is a physiologically congested condition of the generative organs, which readily favors determination of blood to the uterus, and, when this exceeds the normal bounds, the augmented pressure upon the neighboring nerves results in pain. The *causes* of congestive dysmenorrhea may be from sluggishness of the portal circulation, exposure to cold, sudden mental emotions, plethora, displacements of the uterus, fibrous tumors, subinvolution and areolar hyperplasia.

The *symptoms* characterizing congestive dysmenorrhea are violent uterine and pelvic pain, coming on during the menstrual period, with diminution or arrest of the flow, and decided febrile reaction. The uterus is more or less enlarged, hot, and tender to pressure. There is also considerable nervousness, headache, and sometimes delirium. The symptoms may occur at the onset, or during the course of menstruation. *Differentiation.*—The absence of the signs of inflammation during the intervals will distinguish it from that form of dysmenorrhea, while the suddenness of the attack and constitutional disturbances from the obstructive and neuralgic forms. The membranous variety is easily distinguished by the discharge of shreds or large pieces of membrane, and perhaps the cast of the uterine cavity. The *prognosis* is always favorable, unless there is obstinate flexion, fibroid, or other structural lesion.

Before *treatment* is commenced the particular cause of the disease should be ascertained and removed. In cases of plethora the lancet, cathartics, and an abstemious diet will be indicated. Where the cause is from torpid liver and inactive portal circulation, cholagogue cathartic will be required. Should the cause be from exposure to cold and wet, anodynes, diaphoretics and sedatives, with hot fomentations over the abdomen will generally give relief. A very frequent cause of congestion of the uterus is displacement, even a slight antiversion or prolapsus will continue the difficulty. In such cases a replacement of the organ, removal of any superincumbent abdominal weight, with a proper fitting pessary, will generally relieve the difficulty and also prevent its reoccurrence.

Inflammatory dysmenorrhea is that form of painful menstruation resulting from the excitement and congestion of the uterus, that is already engorged from inflammation or structural disease. In dysmenorrhea attended with symptoms indicating inflammatory trouble of the uterus such as heat, pain, etc., there is generally symptoms of uterine disease existing during the intervals of menstruation. The *causes* of this form of dysmenorrhea is usually endometritis, peri-uterine cellulitis, pelvic peritonitis and ovaritis. The case before you belongs to this form of dysmenorrhea caused by endometritis.

The *symptoms* in this patient are those usually accompanying this form of dysmenorrhea such as more or less uterine pain, and suffering constantly present which is increased by menstruation. The pain is often so severe, and especially after coition or physical exertion, that hysteric or epileptiform convulsions are produced. In some cases of this character paralysis of the left side follows. If a digital examination be made the uterus will be found, as in this case, enlarged, hot and tender to the touch, and often ulceration of the os and cervix existing, and the whole organ lower than normal. This variety of dysmenorrhea may be distinguished from the other varieties by pain and leucorrhea during the intervals of menstruation, and the absence of the characteristic signs of the other forms.

The *prognosis* will depend upon the severity of the inflammatory trouble, and our power to remove it. If the local difficulty has existed a very long time dysmenorrhea may continue, the result of habit after the local lesion has been removed.

The *treatment* of this form of dysmenorrhea must be directed toward the removal of the inflammatory trouble which is the root of the evil, and the dysmenorrhea which is the mere symptom will subside. For this patient we will direct the dispensatory physician to give internally iodide and bromide of potassium, and saline cathartics sufficient to keep the bowels in a soluable condition ; to have the cervix irrigated night and morning with warm mucilaginous water ; to apply a pleget of cotton as large as a walnut, saturated with glycerine, containing twenty grains of tannin to the ounce against the os every night ; and to have the ulcerated os and cervix touched once a week with nitrate of silver, which should also be passed in the cervix to the internal os.

A fourth and peculiar form of dysmenorrhea is *obstructive*. Obstructive has been applied to that form of dysmenorrhea characterized by violent spasmodic pain, caused by the collection of blood in the uterus, and the lack of free escape into, and through the vagina. The obstruction may exist in any part of the uterine or vaginal canal. If the uterus be filled with blood that cannot escape, violent spasmodic pain is excited, and continued until the uterus is freed by contraction, when relief is obtained.

The *causes* of this obstruction are imperforate hymen, vaginal stricture, contraction of cervical canal, flexions or versions of the uterus, polypus and uterine fibroids. Contraction of the cervical canal may result from inflammatory trouble, or may be congenital. In flexions, obstruction is produced by narrowing the cervical canal if the angle is acute, if only slight no obstruction occurs.

In the *symptoms* of obstructive dysmenorrhea we have three principal stages : first, the collection of more or less menstrual fluid ; secondly, from the distention of the parts by this collection of fluid violent spasmodic pain produced ; and thirdly, the gush of imprisoned blood, the result of this contraction, which for a time gives relief. These symptoms with the foregoing stages are repeated until menstruation has subsided. In this form of dysmenorrhea the blood is imprisoned in the uterus and a clot forms which is expelled with as much pain as often attends labor or miscarriage. On physical examination the obstruction can easily be detected by the finger if it exists in the vagina, and by the difficulty of introducing a uterine probe if it exists in the uterus. The periodicity of the pain and also of the flow will distinguish the obstructive from other forms of dysmenorrhea. Where we are in doubt physical examination generally sets the matter at rest by finding the seat of the obstruction.

The *treatment* of this form of dysmenorrhea will depend upon the nature and seat of the obstruction. If it is the result of constriction of the cervical canal we must resort to dilatation by means of the uterine sound, sponge or sea-tangle tents, or by expanding instruments. If these measures fail then it is necesssary to resort to incision of the contracted portion of the canal or the entire portion of the vaginal cervix. If the cervical constriction is slight it may be overcome by introducing a very small sound, leaving it for ten or fifteen minutes, and then following it by one still larger, and in this way overcome the difficulty the same as in stricture of the urethra. Expanding instruments, unless used very gradually, will by their rapid action, produce contusion and laceration that may be followed by inflammation. The sponge or laminaria tents when introduced expand the parts so gradually that very seldom any pain or injury results, and their effects are more permanent than either by the sound or by rapid dilatation. When tents are introduced they should remain from twelve to twenty-four hours, or, if pain result sooner, they should be removed at once and the introduction repeated once a week until the obstruction is entirely overcome. If these methods fail, then we may resort to incision, either by Prof. Simpson's method of cutting through the constricted portion of the cervix, from within outwards, by means of a hysterotome, or by Dr. Marion Sim's method of dividing the entire cervical wall, first upon one side, and then upon the other, by means of a pair of long scissors, and the os internum by a blunt pointed bistoury. When incision is resorted to, the parts should be kept separated by means of a pleget of cotton saturated with glycerine, and changed every day ; if this is neglected contraction may follow and the canal become smaller than before. If much pain follow the operation an anodyne should be given, and the patient kept in bed for a week. Another very efficient and safe method of dilatation is to make only a superficial incision through the submucous tissue of the whole uterine canal, and then dilate by means of tents for several days after the operation. If hemorrhage should follow any of these operations it can easily be arrested by the application of a pleget of lint saturated in a solution of persulphate of iron.

Where *flexion* or *version* is the cause of dysmenorrhea efforts must be made to straighten and replace the organ, and retain it in its normal position by means of pessaries and other supports. In some cases the intra-uterine pessary will be required. If the dysmenorrhea is caused by polypus or fibroid tumor they should be removed if possible. Where imperforate hymen or vaginal stricture is the cause, they may be treated by dilatation or incision, or both, according to indications.

Gentlemen—the *membranous* variety of dysmenorrhea consists in the expulsion of a membrane, sometimes in shreds, or it may be the entire cast of the uterine cavity at the monthly periods. As to the *pathology* of this membrane it is now generally admitted to be the mucous membrane of the uterine cavity. Dr. Barns thinks there is more than one kind of dysmenorrheal membrane expelled ; that one kind consists of fibrin and mucous, and does not contain the elements of mucous membrane. The expelled mucous membrane is seen as a three cornered bag, longer in one direction than the other, having irregular openings at each angle corresponding with the situation of the fallopian tubes and the os internum, being ragged on the outer and smooth on the inner surface, and having the normal proportions of the cavity of the body of the uterus. The distinctive elements of the uterine mucous membrane, as well as the utricular glands, are made manifest under the microscope.

The other form of dysmenorrheal membrane consists partly of fibrin cast off in shreds, or in pieces representing the shape of the uterine cavity. This form is usually associated with chronic metritis. Small shreds are frequently passed when there is malignant disease of the uterus. As to the *causes* of this variety of dysmenorrhea there is much diversity of opinion. Some contend that it is the result of endometritis, others regard it as an exfoliation of the mucous membrane due to congestion and irritation transmitted to the endometreum; while it is thought by others to be the result of hyperemia of the walls of the uterus, again, some think it is the result of a mere exaggeration of a normal condition, or an exalted degree of a physiological action; and finally others regard it due to a deciduous formation excited by conception. It is evident that an abnormal condition of the uterus exists, hence the pain and expulsion of the membrane in question. I think it may be due either to irritation, congestion, or inflammation, which imparts excessive action to, or adds to the mucous lining of the uterus, and thus finally results in this pathological formation. Fortunately this painful and obstinate disease is not of very frequent occurrence.

The *differentiation* of this variety of dysmenorrhea is very easy from the fact that the exfoliated membrane is pathognomonic of the disease, and serves to distinguish it from the other varieties, yet it may be confounded with early abortions, blood casts, or fibrinous moulds of the uterus, exfoliation of the vaginal mucous membrane, and diphtheritic endometritis. By means of the microscope blood casts as well as the nature of false membrane can be recognized and distinguished from the decidua menstrualis. From early abortions it may be differentiated by the progress of the case, by the return at each monthly epoch, and the absence of the symptoms of pregnancy.

The *symptoms* in this form of dysmenorrhea are pain from the commencement of menstruation until the expulsion of the membrane, which causes very violent expulsive pain, followed by more or less menorrhagia and complete relief. The pain is sometimes more severe and excruciating at the time of the expulsion of the membrane than during abortion or natural labor. After the expulsion of the membrane and the hemorrhage that follows it, there is sometimes a purulent or sanguino-purulent discharge indicating the presence of endometritis. This form of dysmenorrhea, although a disease not imminently dangerous to life, is extremely unfavorable or slow to cure.

The *treatment* will resolve itself into palliative and radical, or the treatment during menstruation, and during the interval. The pain and suffering experienced during an attack will demand prompt anodyne measures. The patient should be put to bed in a warm room, have bottles of hot water, or warm bricks wrapped in dry flannel applied to the feet, and hot water compresses, or hot hops applied over the abdomen and pelvis. At the same time pulvis Doveri, hyoscyamus, hydrate of chloral, or camphor in large doses should be given. If these should fail to give relief then we may resort to morphia either by the mouth, rectum or hypodermically. During the expulsion and passage of the membrane, ether or chloroform should be given by inhalation to control the severe spasmodic pains. In reference to the radical cure, or the treatment during the intervals, this must consist in removing any uterine or ovarian disease, or uterine displacement, that we may find to exist. Our deficiency of knowledge respecting the real etiology and pathology of this disease prevents us from giving a definite plan of treatment. In the meantime we may safely pursue an alterative course, with the hope of changing the excessive action of the endometerium. This may be accomplished by dilatation with tents, and the application to the uterine mucous membrane of solutions of persulphate of iron, nitrate of silver, chromic, carbolic or salycilic acid, tincture of iodine.

Gentlemen, the sixth variety of dysmenorrhea I have given you is *ovarian*, which is represented by case No. 2. Where dysmenorrhea results from some pathological condition of the ovary alone it is called ovarian, or by Dr. Barnes "dysootocia." In an organ so active as the ovary during the development and evolution of its vesicle, it is not to be wondered at that diseased function and structure will occur, resulting in active and positive symptoms peculiar only to the ovary, and referable to its locality. As positive proof of this condition, cases may be cited of ovarian dysmenorrhea occurring at the menstrual period in women that have no uterus or are imperfectly developed. In these cases the local pain and distress always exists in the ovarian region, but may be reflected to any portion of the body.

The *causes* most prominent are inflammation of the follicles of the ovary, congestion or swelling of the ovary, producing a tension of the ovarian capsule, and ovarian tumor. Nervous derangement or any pathological condition impeding ovulation may cause it. This disease no doubt exists more frequently than is recognized, as few authors have given it a separate classification. This may be *differentiated* from the other forms by tenderness and pain being localized over the ovarian region, and by the absence of the uterine and other symptoms characteristic of those affections. The *symptoms* in ovarian dysmenorrhea are pain occurring in one or both iliac regions over the seat of the ovary, commencing before and subsiding after the menstrual flow appears. If pressure be made over the seat of the diseased ovary, acute pain is produced ; whereas, if only one ovary is diseased the opposite side will not be affected by pressure. The uterus is not tender, but if pressed in the direction of the diseased ovary severe pain follows, or if pressure is made by the finger in the vaginal roof toward the affected ovary pain is produced. A characteristic sign of ovarian congestion is the drawing of the body of the uterus toward the affected ovary, the result of the tumefaction of the intervening tissue. This form of latero-flexion of the uterus will often be recognized as occurring during ovarian dysmenorrhea. Swelling of the lower part of the abdomen from sympathetic nervous irritation is a very common symptom in ovarian dysmenorrhea, which often excites menorrhagia. Indeed nervous derangement more frequently occurs with this form of dysmenorrhea than any of the others, and is very apt to be accompanied with headache, vomiting, or hysteric convulsions. The *prognosis* is not unfavorable to life, but often to a speedy cure ; and when the local disease has been removed nervous phenomena are apt to continue for some time afterward.

In the *treatment* of ovarian dysmenorrhea the first indication is to relieve the excessive pain by the administration of such anodynes as opium, hydrate of chloral, bromide of potassa, hyocyamus, or belladonna. When there is decided febrile symptoms, hot skin, quick pulse, and more or less swelling and tenderness of the ovarian region, veratrum veride, or tartar-emetic, and cathartics should be administered, and ten or twelve leeches applied over the iliac region. Where the iliac tenderness is slight the leeching may be omitted, and hot hops, or turpentine stupes applied. In the severely nervous cases the inhalation of chloroform and ether may give relief.

In the intervals of menstruation the ovarian region should be painted with tincture of iodine daily, and iodide of potassium in large dose given with the view of promoting reabsorption of any local inflammatory products that may exist within or about the ovary. Bromide of potassium may be required to control excessive nervous irritability, or nervous tonics may be indicated. Dysmenorrhea from obstruction of the fallopian tubes may occur, giving rise to similar symptoms to that in the ovarian, and require similar treatment.

Correspondence.

CINCINNATI HOSPITAL.

JONES STATION, O., DEC. 20, 1875.

HON. M B. HAGANS, *Member of the Board of Trustees of the Cincinnati Hospital:*

DEAR SIR:—Your failure to be present at the last monthly meeting of your board is very much regretted by your friends. Your absence tends to confirm the suspicion that you are a willing supporter of that injustice which it seems is the pride of your board to deal out to medical college faculties. You cannot by staying away escape the odium which must ultimately attach to your board for adopting the vindictive recommendations of your colleagues, Drs. Judkins and Dandridge, who aspire to be the leading spirits of your board, and who are the champions of the two medical cliques of the city.

May I ask you to remember that this hospital was organized in 1821 for two purposes; 1st, to take care of the sick poor of the city; 2d, to afford learners an opportunity to study disease at the bedside. The faculty of the Medical College of Ohio—then the only medical college in the city—was authorized to prescribe for the sick, and give clinical instruction to medical students. This faculty, for forty years, held this position, during which time other medical colleges were organized. But the faculty becoming unfaithful to the demands of justice, the tax-payers petitioned and the legislature divorced the hospital from the college, and passed the act pursuant to which your board was first organized. This act vested in your board certain discretionary powers, among which was the one authorizing you for cause to dismiss from the hospital staff the faculty of the Ohio College. This clause doubtless was intended to enable your board to deal fairly and honestly with the interests of all the colleges in the city. But unfortunately for the hospital and the colleges, enough tricksters and clique men were appointed on your board to defeat this wise intention of the law. One of the early acts of your board, under the management of such men as Dr. Judkins, was to dismiss members from the staff of the hospital, and fill the vacancies thus made with prominent members of another medical clique. This clique, as unscrupulous as the one just retired, soon after it gained the power, conceived and brought forth a medical college, and with the announcement heralding its birth came the declaration that *five members of its faculty were members of the hospital staff.* This young prodigy soon became the central object of interest with your board. A fond mother could ask nothing to promote the welfare of her offspring that your board did not promptly grant to this clique for the growth and development of its bantling. Announcements went forth advertising its powers in the hospital, not only by publishing its numerical strength on the staff, but by naming the fact that nearly, or quite, all the house physicians then serving the hospital had been selected from its class.

This perversion of the law, this failure of your board to use the discretionary powers vested in you by the law, for the benefit of all the colleges, produced an acrimonious controversy, which ended in the adoption by your board of the rule, making all college professors ineligible to the hospital staff.

Afterward your colleague, Hon. F. .J Mayer, who claims to be an honest and truthful man, while assuming to act as the representative of your board, declared that the equality of college faculties should be maintained in the hospital. That if the above rule should at any time be repealed, all the college faculties should have representation on the hospital staff. Within a year after the above pledge was made, your board rescinded the above rule, and then appointed on the hospital staff a member from each of two college faculties, and denied all representation to the third, which was equally worthy to receive one. A few months later your honorable (?) body made additional appointments from the first mentioned faculties, and continued to deny all representation to the proscribed one. To make room for the additional college representatives, able, faithful, and superior clinical teachers were dismissed from the staff without notice. After such proceedings, as might have been expected, there sprang up among a portion of your board, and the more mercenary members of your staff, a contempt for the law made to govern your official acts. A successful effort was made by a number of members of the staff to charge medical students from college classes for hospital instruction, when the law says the staff shall serve without compensation. The law requires that all fees shall be paid into the city treasury, but your board, sworn as it is to administer your trust according to law, has permitted a part of the fees to go into the pockets of these mercenary members of your staff, and I regret to say that you did not oppose the unlawful proceeding.

Here let me remind you that your staff at the close of the last clinical course recommended to your board for appointment as house physicians for the hospital, none but such as had been members of these private classes—none but such as had paid them for private instruction. In this way your staff tacitly sold out to these gentlemen the places they now occupy, and thus insulted the well qualified students of the college classes who refused to pay the unlawful demand by declaring through the public prints, that only the best qualified men of the college classes received place in the hospital. Again, to gratify Dr. David Judkins, an active member of your board since its first organization, and champion of one of the medical cliques of the city, who seemed to officiate at the birth of the Miami Medical College, and to act as a sort of wet nurse for the same, the legal gentlemen of your board, as I am informed, gave an opinion that ward teaching might be continued in the hospital, but no charge for services could be made. Since then Dr. Comegys, who had enjoyed the opportunity of using his official position to specially prepare his son for the examination for house physician, and who is now serving in that capacity, and also Dr. Muscroft, whose desire to impart surgical knowledge to college students at fifteen dollars per capita was without limit are now resting from their labors, while Dr. Mussey is preparing in the wards of the hospital, free of charge, a number of students of the Miami Medical College in which college he is a professor, for the examinations for house physicians, to take place at the close of the present clinical course. With permission from your board to stuff these students in the hospital wards, and with Drs. Mussey, Murphy and Mackenzie on your staff, who are the examiners, all from the faculty of the Miami College, who doubts the ability of this institution to again furnish nearly or quite all the house physicians? Your board, by permitting this practice, violates not only the spirit but the letter of the law. To act within the provision of law you must afford to all students who purchase the hospital ticket, equal opportunities to study medicine and surgery. Now, my dear sir, are these things done? If not will you be pleased to deny over your own signature any and all the untruthful statements I have made. If true do they not show:

1st. That the organization of your board in 1861 was effected by scheming men for the benefit of one of the two medical cliques of the city, and for the injury of all opposing interests.

2nd. That your board under the leadership of such men as Dr. David Judkins, did use the clinical facilities of the hospital to build up a college, which was the creation of this clique, to the damage of other colleges entitled to share them on terms of equality.

3rd. That your board, was compelled, on account of the opposition to its unjust and unlawful acts, to pass the rule making college faculties ineligible to the hospital staff, and pledge for the future that college faculties should have equal representation on the staff.

4th. That Dr. A. S. Dandridge was placed on your board to harmonize differences between the cliques, and thereby narrow the opposition to the policy of your board.

5th. That on the recommendation of Drs. Judkins and Dandridge your board repealed the above rule, placed on the staff a member from each of of two college faculties, and denied all representation from the third.

R. C. S. Reed.

PRECOCIOUS.

Shelbyville, Ind., Dec. 13, 1875.

Prof. Thacker:

Dear Sir.—In the *Cincinnati Journal of Medicine* for August, 1866, a case of early menstruation, commencing at the age of three and one half years, and recurring regularly, was reported by Prof. Parvin.

I now report her giving birth to a living, healthy, male child.

Miss Mary A. Caudel, age thirteen years and eleven months, was confined Nov. 9th, 1875. Natural labor, first presentation; in labor six hours, Nov. 20. Child had slight spasms with yellowness of the skin and conjunctiva, which yielded to appropriate treatment. Yours truly,

John Perry, Physician.

Book Notices.

A System of Midwifery, Including the Diseases of Pregnancy and the Puerperal State. By Wm. Leishman, M. D., Second American from the Second and Revised English Edition. With additions by John S. Parry, M. D., Obstetrician to the Philadelphia Hospital, etc. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co.

I was only a short time ago that we announced to our readers the publication of the first edition of this work. That a second edition has been so soon demanded shows in what high estimation it is held by the profession. Certainly Prof. Leishman's work is equal, if not superior, to any other upon the subject of which it treats that has yet been issued from the press. It is well written, and probably brings the art of midwifery nearer up to its present advanced position than any other. Its descriptions of the various operations are plain and easily understood.

In the present edition the errors of the first have been corrected, and no effort has been spared to render it more worthy of the approbation of the profession. The chief alterations will be found in the physiological section, and in the chapters on puerperal fever, which have been re-written with the view of giving greater prominence to the doctrine of septicemic infection.

The editor has added such notes only as he believed would make the book more useful to the profession in this country. They are chiefly in the chapters on the Use of the Forceps, Lactation, and the Puerperal Diseases. A chapter on Diphtheria of Puerperal Wounds has been added, and a few new illustrations have been introduced, representing the principal modifications of obstetrical instruments generally employed in this country.

A PRACTICAL THEATISE ON FRACTURES AND DISLOCATIONS. By FRANK HASTINGS HAMILTON, A. M., M. D., LL. D., Surgeon to Bellevue Hospital, e.c., Fifth edition, revised and improved. Illustrated with 344 wood cuts, 8vo. pp. 831. Philadelphia: HENRY C. LEA. Cincinnati: R. CLARKE & Co.,

This is probably the most complete work of the kind in the English language. So well known is it to the profession that it is superfluous for us to say any thing in commendation of it.

The present edition has been carefully revised. Many observations of practical surgeons, both at home and abroad, have been added, and the number of pages and of wood-cut illustrations have been increased. The former editions having met with the warmest approval, still more will the present.

A TEXT BOOK ON HUMAN PHYSIOLOGY; Designed for the Use of Practitioners and Students of Medicine. By AUSTIN FLINT, Jr., M. D., Professor of Physiology in the Bellevue Hospital Medical College. Large 8vo., pp. 978. New York: D. APPLETON & Co. Cincinnati: R. CLARKE & Co., 1876.

In this volume the author's large treatise on physiology, in five volumes is here condensed. Bibliographical citations and matters of a purely historical interest have been omitted. Many subjects, which were considered rather elaborately in his larger work, are here presented in a much more concise form.

Practitioners and students of medicine will find this a very valuable work indeed. Having a much larger page than the usual text books upon physiology, and much smaller type, it contains nearly double the amount of reading matter. Many subjects are treated of at considerable length which are scarcely alluded to in many works upon physiology. What is taught is fully up to the progress of the present time. Prof. Flint is an original investigator, and the work embodies much of his own investigations.

Prof. Flint adopts the views of Cohnheim that the white corpuseles of the blood and the pus corpuscles are identical. On page 13 it is stated: "All who have been in the habit of examining the animal fluids microscopically, have noticed the great similarity between the corpuscular elements found in the above mentioned situations; and, as microscopes have been improved and investigations have become more exact, the varieties of corpuscles have been narrowed down. It is now pretty generally acknowledged that the corpuscles found in mucus and pus are indentical ; also, that there is no difference between the white corpuscles found in the lymph, chyle, and blood ; and finally, it has been shown that all of these bodies, which were formerly supposed to present marked distinctive characters, belong to the same class, presenting but slight differences in different situations."

Editorial.

THE QUESTIONABLE VALUE OF HYPODERMIC SOLUTIONS—Dr Lafitte, attacks hypodermic medication, so far as the alkaloids are concerned. He says: not the alkaloid, but simply the water, distilled or not, has the merit of allaying pain. Startling cases are mentioned (*L' Union Med.*, Nos 113 and 114, 1875), and from these we find that severe lumbago, obstinate neuralgia, etc., are instantly relieved by the injection of about thirty drops of water. Failures are but few, and the author consoles himself respecting these by the consciousness of not having done any harm, if he did no good.

M. Lafitte now asks himself how the simple water acts, and he throws out the theory that the ultimate nerve filaments are compressed by the water, and, being thus paralyzed, can no longer convey the sensation of pain. M. Lafitte goes the length of maintaining that all the hypodermic injections hitherto performed acted through the agency of the water, and he is very particular in stating that his operations were never followed by abscesses or any unpleasant symptoms.

SOLUBLE GLASS IN HOSPITAL CONSTRUCTION.—D. Luther, M. D., in an article in the *Philadelphia Medical Times*, suggests the employment of soluble glass in hospital construction. In the building and arrangement of institutions, particularly those for the insane who exercise little control over the urinary or intestinal discharges, no system of ventilation or arrangement of the apartments occupied by such patients, whether of wood, painted, or oiled, or with floors of slate, metal, cement, has been sufficient to effect entire cleanliness. A material having an entire absence of absorbing surface would seem to meet the demand in such cases, and glass is such a material. The walls, floors, and ceilings might be covered with it. It is not expensive, is strong when sufficiently thick, is impervious to water and dampness. and can be made of suitable color. Apartments thus fitted up could be thoroughly drenched with water so as to remove every particle of fetid matter. The floors could be made comfortable by covering them with rubber cloth, which with the bedding, could be easily removed and cleansed.

ILLEGITIMACY IN SCOTLAND—The Registrar-General's report for the last quarter shows, as usual, a great difference existing in different parts of Scotland with regard to the proportion of illegitimate to legitimate births. Thus while over the whole country the percentage of illegitimacy is 8.75, in the large towns it is only 7 per cent., but rises in the mainland rural districts to 10 per cent.

PROFESSOR A. J. MILES.—On the first of last December, Professor A. J. Miles, of the Cincinnati College of Medicine and Surgery, was made a fellow of the Royal Obstetrical Society of London. Professor Miles is the only medical gentleman of this city who has had conferred upon him the distinguished honor mentioned. While recently in Europe he received many tokens of the high consideration in which he was held.

We have no doubt his many friends will be pleased with the honor which has been conferred upon him.

OBITUARY.—Died, Oct. 7th, at his residence, near Cope, Belmont co., Ohio, Dr. C. H. Cope, in the 65th year of his age. He begun practice in his 24th year, and through the course of a long and busy life sustained the character of a true physician.

DRINK AND DISEASE.—The *Lancet* gives some curious calculations which have been made of the proportional amount devoted by the working men of Birmingham to the support, respectively, of their public houses and of their hospitals. The figures bear something like the ratio of thirty to one. Three thousand pounds sterling are contributed annually by them to the medical institutions of the town, and £900,000 spent in drink. The *Lancet* further asks, "What proportion does the contribution of the working men bear to the total expenses of the hospitals?" which are for them and theirs only. On the other hand, what proportion of the work of these medical institutions is occasioned by the drink on which they spend so much? Commenting on the state of the case the writer says: "We remove every obstacle to as free a consumption of liquor as is consistent with the maintenance of equilibrium, and then, with a benevolent appropriateness, we provide hospitals in which the consequences of the drink can be recovered from, ameliorated, or assisted to an euthanasia." The corrective suggested for this state of affairs is "that the drink sold within a certain area should be so taxed as to defray the expenses of skilled treatment for those whom drink has prostrated and incapacitated for their work."

HOMEOPATHY IN A REGULAR COLLEGE.—The Medical Faculty of the University of Michigan has recently been increased by the addition of two new Professors who are to teach the distinctive principles of homeopathy. This makes a most wonderful combination, a kind of a "Young Men's Christian Association" of a college, and has created quite a stir in medical circles. The "Detroit Review" comments on it as follows: Plain people like ourselves, accustomed to estimate things not by the labels attached, but by their substantial realities, can see no reason to doubt the fact that into the Medical Department of Michigan University two homeopathic professors have been introduced to teach the students of the University the merits of a dogma. By technicalities and sophistry the attempt is made to convince the Profession that such is not the fact. Will it succeed? If it does, our ethical code will need to be so remodeled as to permit consultations with those "who teach or practice an exclusive dogma."

SCRIBNER'S MONTHLY.—This is one of the very best literary monthlies that is published. Its circulation, we believe, approaches near 100.000. It has a large subscription list in England. Its contributors are among the most distinguished writers. Its editor, Dr. J. G. Holland, is a gentleman of noted literary attainments. In recommending a journal of high order for the family there is none that we would prefer to this.

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Original Contributions.

REPORT OF SECTION ON MATERIA MEDICA AND THERAPEUTICS.

Read before the Medical and Chirurgical Faculty of Maryland.

By RICHARD MCSHERRY, M. D., Professor Principles and Practice of Medicine, University of Maryland.

From and on the part of this section, we beg leave to offer a report which will be rather a summary and commentary on notes of practice during the past year than a presentation of novelties, whether speculative or experimental.

Looking upon Therapeutics as the culmination of medicine, we would wish them to be ever the leading study of American physicians; and indeed, such is the practical bent of the American mind, we think that in this most important branch of the healing art, our countrymen have no need to yield precedence to any of the age.

We want Therapeutics derived principally from common clinical experience, such as the watchful and prudent physician derives from bedside practice; and we think them, when so derived, more instructive and reliable than any experimental results obtained from inferior animals, whether in a state of health, or in a state of terror, or in a state of artificial anæsthesia. We do not object to these experiments; they may and they do teach something, undoubtedly; but they are by no means as good criteria for practice as the results obtained by careful observers of the influence of remedies upon the diseases and physical and mental infirmities which afflict our own race. Let us illustrate.

MERCURY.

In the early professional days of many here present, the drug mercury was esteemed a *sine qua non* in every-day practice, but most especially valuable in syphilitic and hepatic diseases. Every practitioner used it in some form, frequently and freely, the learned and the unlearned, the veteran and the tyro. Throughout the country where physicians were inaccessible, every farmer and planter kept it on hand for domestic use, and could narrate numerous instances of its success in curing the local diseases about him, which were, for the most part, hepatic or malarious. Everybody was "bilious" and mercury was *par excellence* the cholagogue. This indiscriminate use of so potent an agent necessarily transcended legitimate use, and passed into wide-spread abuse. It was often pushed to such an extent, that the remedy, so-called, was worse in effects than the disease. Ill-conditioned, anemic and strumous subjects were often much the worse for its use. Patients suffering with certain forms of dropsy, now carried under the general name of *Bright's Disease*, had the disease cut short indeed, by virtue of shortening life, however, by its agency. Naturally enough, physicians began to distrust what was held to be their most potent weapon, since it was capable of inflicting so much evil. Its use became circumscribed, became unpopular, became unfashionable. Many physicians would insist upon its being the most valuable remedy for syphilis, and it was generally conceded to be the chief of cholagogues. Its supremacy in these respects was not undisputed. Some syphilographers voted it worse than useless in syphilis, and then it lost for a time all claims to respectful consideration except as a cholagogue, where at least its supremacy seemed to be above all cavil.

But in these days there are medical iconoclasts, and some of these set to work to knock mercury, with other of our professional divinities, off of his pedestal. And sure enongh, in a little time, Dr. Hughes Bennett, of Edinburgh, as chief of a commission of scientists to test the power of mercury upon the living organism, and especially upon the liver, proved to his own satisfaction, and to that of a large portion of the medical world, as the result of experiments made upon dogs and other animals, that mercury was not, is not, cholagogue at all, and that all the dogmatism and careful observations not made upon his dogs were of no value whatever. Such astonishing revelations were enough to shatter faith in medicine. Men went so far as to say that the once favorite drug should be banished from the Materia Medica. Some physicians announced their insight into the deepest arcana of medicine by declaring that they had long given up the use of this treacherous agent; and when any recurrenee to it would be suggested a significant smile would remind the proposer that he was a little behind the times. Our mercury was getting to be considered an agent of destruction, a mere poison, with but one function left, transmitted doubtless from the Mercury of ancient Rome, which was that of taking the souls of men to their last abiding-place, whether Tartarus or the Elysian Fields. It became so, in fact, that after Dr. Bennett's experiments, many progressive physicians looked upon their brethren who would fall back from time to time on calomel or blue-pill, as little better than fetish worshippers, such as will linger sometimes in enlightened Christian communities. The drug seemed likely to pass out of use among regular practitioners; while irregulars, medical camp-followers, who believed in the traditional liver and the traditional cholagogue, still used the agent in their stolen combinations, secretly or openly, sometimes to the benefit and sometimes to the detriment of their patrons. Sometimes we say to the benefit, which is equivalent to asserting that the medicine is capable of doing good when properly used. It is scarcely credible that the whole medical world of three or four decades back was in total darkness, or that, having eyes, it could not see. There were brave men before Agamemnon, and observant men before Dr. Bennett. And since the rude shock given by this gentleman and his collaborators to medical opinion, many intelligent medical men have given to the therapeutic qualities of mercury a grave and earnest reconsideration. The potency of the agent required as much. If, as some asserted, it were only a destroyer, poisoning the blood and the tissues, eminently destructive to mucous membrane, of no value as an anti-syphilitic, and in no sense a cholagogue, surely detrimental, and very uncertainly useful, it were indeed time to banish it from the Materia Medica. The experience of the past generation of medical men was but a delusion and a snare.

But asserting too much, like proving too much, is certain to bring a recoil. We do not want to believe, and we cannot believe, that able, learned, conscientious, and observant men, practicing medicine forty years ago, though their microscopes were somewhat indifferent, and spectroscopes not yet *in esse*, were always blindly engaged in poisoning their patients instead of curing them. If it were so, we had indeed better throw physic to the dogs at once and forever.

But it was not so. And even if it be proved, which it is not, that mercury does not directly increase the biliary secretion, the only fair deduction would be that physicians mistook its *modus operandi*, and not its therapeutic influence. We surely cannot abandon the use of a medicine because we do not understand its *modus operandi*; if we did, few would be left us. Mayhap quinine cures periodical diseases by supplying a kindred substance normally belonging to the blood, but destroyed by malaria, whatever that may be; but whether this be so or not, we will nevertheless continue to use quinine for malarious diseases. The satirist says physicians use opium to cause sleep for the learned reason that *opium facit dormire, quia est in eo virtus dormitiva*; be it so, we will even accept its use upon that basis, until we find a more scientific one at our leisure.

If mercury by any means induces the secretory cells of the liver to produce more bile, it is a true cholagogue in that sense; if it does not, we think it may be shown to be a true cholagogue in another sense or by another process. Cholagogue it certanly is, as it was in the past, and as it will be in the future. And if it be a poison, it is only so in common with most other medicines, that is, when improperly used. A modern authority not unacquainted with recent investigations says, speaking of calomel: "If if it really were injurious, considering how universally it is employed, especially in diseases of children, the number of persons suffering from its effects would be very large. I will only call to mind that the Plummer's powders used in ophthalmia and other scrofulous complaints, the minute doses of calomel used in infantile diarrheas, the larger ones pushed almost to salivation in croup, pleurisy and other inflammations, still are among the most common of prescriptions, and that ten or twenty years ago they were even more generally administered than now. An exceedingly rich experience has taught us that the innumerable multitude of persons who have used calomel more or less, for other purposes than anti-syphilitic treatment, have not suffered any permanent injury to their digestion or their general health, but are now as healthy as they were before." (Niemeyer, *Pract. Med.*, vol. ii. p. 699.) It must be conceded that Niemeyer did not live in the dark ages of medicine, and that he was not deficient either in learning or in practical experience. A casual remark made by Dr. Carpenter upon the clinical use of mercury, without intending any argument as to the more recent discussion, brings home a familiar fact doubtless to many here present. Speaking of the functions of the cerebrum, and of agencies by which they may be excited or depressed, this philosophic observer goes on to say, "there can be no doubt that an extreme depression of intellectual power, as well as of the emotional state, is often to be attributed to a depravation of the blood; a slight accumulation of bile being very prone to occasion this state in some individuals, and an entire change being effected by a mild dose of mercurial preparations, which, by elminating the bile, restores the circulating fluid to its proper purity." (*Elements of Physiology.*) This is not a fancy sketch, but a commonplace, practical fact. If there be any one disposed to depreciate it by virtue of a medical ideal statute of limitations, we may cite "modern instances" yet more to the point. Dr. Murchison in his admirable monograph, just published, on *Functional derangements of the Liver*, speaks of a friend who was seized with dimness of sight and giddiness every night while writing. He took iron, quinine, and other tonics, but he got worse instead of better. He was advised to give up his profession for a time and try the effect of change of air, but before taking so serious a step he took a few doses of blue-pill, and the symptoms at once and permanently disappeated. (p. 113.)

The same author gives a brief account of various experiments made by various experimenters, as to the cholagogue influence of mercury, most of which go to show that it does not tend to increase the secretion of bile in the lower animals. Nevertheless, the practical physician finds that ordinarily there is an increase of bile in the dejections after the administration of this agent, and not unfrequently the patient appears to be obviously benefited thereby. Now the physiologist's experiments and the physician's experience are not so contradictory as they may appear at first sight to be. "Mercury and allied purgatives produce bilious stools by irritating the upper part of the bowel, and sweeping on the bile before there is time for its reabsorption. * * * That mercury does act especially upon the duodenum is proved not merely by the large flow of bile which follows its action, but by the fact discovered by Radziejewski, that leucin and tyrosin, which are the products of pancreatic digestion, under ordinary circumstances decomposed in the bowel, appear in the fæces after the administration of mercurials. It would appear then that mercury, by increasing the elimination of bile, and lessening the amount of bile and other products of disintegrated albumen circulating with it in the portal blood, is after all a true cholagogue, relieving a loaded liver far more effectually than if it acted merely by stimulating the liver to increased secretion, as was formerly believed, and as some authorities still maintain; for in this case it might be expected to increase, instead of diminish, hepatic congestion." (p. 170.)

Be the theory what it may, "patients of the greatest intelligence suffering from hepatic disorders constantly declare that they derive benefit from occasional or repeated doses of mercurials, which no other medicine or treatment confers; and the skepticism of the most doubting physician would, I believe, be removed should he unfortunately find it necessary to test the truth of their statements in his own person." Dr. Murchison adds that his convictions in favor of the use of mercury in hepatic disorders are derived not from instruction or primitive partiality, but from experience, in spite of early prejudices against its use in such maladies. This kind of experience we think is of much more value in practical therapeutics than any derived from physiological experiments. And while we do not mean to depreciate the importance of the latter, we must declare our conviction that too many physicians are led by them to jump at over-hasty conclusions in matters of practice. We have cited a few great names, and might adduce many more bearing the same testimony, but it is not, we beg leave to say, as instructors, but as corroborative witnesses, that we cite them. A large experience, especially in those visceral diseases wherein mercury has been supposed to be indicated, has shown us, as we believe, its real value, and we are happy to have our own views, or rather our own experience, confirmed by such competent witnesses.

Before leaving this subject, we may make an *addendum.* Twenty years ago the uniform treatment of malarious and hepatic diseases was by cleansing out the *primiæ viæ*, when apparently needed, and by giving quinine. Many physicians have found the last agent all-sufficient, and denounce the use of purgatives, which they assert to be useless or worse. We cannot consent to the justice, as a general rule, of this denunciation. While free to admit that quinine is the primary remedy, or the antidote to the ingested malarial poison, it must be remembered that numerous attendant or secondary evils, in the fluids and solids of the living organism, must be met, which often can be no more counteracted by bark alone than the secondary disorders resulting from the ingestion of a mineral poison can be counteracted in full by the mere administration of a chemical antidote. Malaria acts as a blood-poison, and quinine is antidotal—this is granted ; but very speedily there is a wide-spread degradation of the blood, which is obvious to all observers, but which was first most clearly traced, step by step, as it were, by Frerichs, of Berlin. The liver and the spleen soon become evidently disordered or diseased. The many important and complex functions of the liver are prominently deranged. The antidote, by no means, adequately meets these derangements. But the antidote aided by elimination, and then by general tonics, may prove to any skeptic, when judiciously used, the real power and value of medicine. Bile in excess in the blood surely vitiates it ; now it is admitted on all sides that mercury sweeps bile from the small intestine, thereby preventing to a large extent at least its resorption, and a similar extent its redundancy and noxious influence in the blood ; and thus we see as a matter of fact, that after the appropriate use of mercury the skin and conjunctivæ clear up, and the urine regains its natural color. Mercury here plays the part of an eliminant ; perhaps not always the best, and certainly not the only one, yet certainly an effective eliminant. In instances beyond number, where lingering disorder, with headache, anorexia, yellow skin and conjunctivæ, and other familiar symptoms have indicated retarded recovery, we have known rapid abatement of bad symptoms, and rapid recuperation, to follow a prudent and judicious use of mercury, given for the most part, in small doses, under the form of blue-pill.

Upon the whole, then, we must insist that mercury not only has a right to a place in the Materia Medica, but that, though by no means a panacea, it is a therapeutic agent of vast utility when used, as every powerful medicine should be, with due care and discretion. *Abusus non tollit usum.*

QUININE, OR BARK, IN SUMMER COMPLAINT. (*Vinum Quinii.*)

Our notes show the frequent and satisfactory use of bark in the summer complaint of children. We have found the wine of quinine (*Vinum Quinii*), which appears to be a vinous solution of all the active principles of the bark, prepared by Labarraque, of Paris, a very eligible form for all secondary purposes where the more potent sulphate of quinia may be considered the primary agent.

ELIMINANTS IN CASES OF DEBAUCH.

The wide-spread use and abuse of alcohol in our country brings under the care of every practitioner many varied forms of alcoholisms, from the primary poisoning or intoxication, to the chronic and hopeless impairment of all the animal organs and tissues. In mania-a-potu, as distinguished from delirium tremens, we have found elimination much more safe and useful than narcotism. Those agents which start the secretions freely, as the officinal nitrous powders, or spt. mendereri, with the addition of a few drops of antimonial wine in each dose, or purgative saline waters, should always precede the use of narcotics, if indeed the last become at all necessary. Perhaps the much-vaunted use of digitalis owes its success chiefly to the diuretic properties of the drug. The value of eliminants in the *delirium ebriosum* is the more obvious when we remember that drinking men in whom alcohol in excess produces vomiting or purging, suffer much less from its remoter effects upon the organism than those who are capable of "carrying" large and cumulative quantities of the noxious agent. We have often found *lupulin* in the ordinary doses very grateful to stomach and nervous system of patients impaired by debauch.

HÆMATOXYLON IN MEMBRANOUS ENTERITIS.

In a remarkably obstinate attack of membranous or pseudo-membranous enteritis, the extract of hæmatoxylon given in wine appeared to be more efficacious than any other remedy. Before the development of the morbid condition mentioned, the patient had long suffered with nervous symptoms and abdominal pains, especially about the umbilicus. There were several recurrences, from time to time, of the passage of large masses of pseudo-membranous matter, but for some months back the patient has been free from them. They were always met by the hæmatoxylon. It may be incidentally mentioned, that with this patient bismuth invariably increased pain.

ELIMINANTS AND TONICS IN BRIGHT'S DISEASE.

It is only of late years that just discriminations have been made in regard to the various forms of dropsy. We have seen in times past, calomel and squill given in every form of disease, sometimes to the benefit, sometimes to the detriment, of the patient. It is in evidence now, that while hepatic and cardiac dropsies may often be benefitted by this combination, chronic renal dropsies do not at all admit of it, for obvious reasons.

Most authorities recommend the bitart. of potash as a valuable diuretic remedy in chronic albuminuria, but according to our experience it is much more useful as a mild saline purge. In many instances we have given it advantageously in combination with bicarbonate of soda and potassio-tartrate of iron, mixed extemporaneously so as to produce in solution a gently effervescent draught. (R. Sodii Bicarb. ʒ iiss; Potassii Bitart. ʒ iij; Ferri et potassii tart. ℈ ij; P. Sacch. Alb. ℈ ij; Ol. Limonis gtt. viii. In chart. No. viij. divide. S. One in a glass of water three times a day.) This is, for the most part, grateful to the patient, and beneficial in regard to the malady.

SOME USES OF ERGOT.

In exhausting hemorrhages from the bowels of a lady who had passed the menopause, we found ergot and alum in combination uniformly efficient in controlling them.

In atony of the fundus of the bladder we have found ergot an efficient if not a certain agent; and in a case of atony of the intestinal tract, when the patient suffered mentally as well as physically from the attendant torpor of large and small intestines, a combination of fl. ex. ergot and dilute phosphoric acid (R. Fl. ex. secal. cornut. ʒ vij; Acid Phosphorici-dilut. ʒ i. S. Teaspoonful three times a day, p. r. n.) gave signal relief. The phosphoric acid was added upon the authority of a statement made by Prof. Levi, of the University of Pisa, who asserts that he has found after careful investigation, that the physiological, therapeutical and obstetric properties of the ergot of rye are due to the presence of phosphoric acid, which it contains in abundance. Be this as it may, the combination acted as desired.

KOUSSO AND SULPHUR IN CASES OF TAPEWORM.

In three separate cases of tapeworm occurring during the past year, two of *tænia solium* and one of *bothriocephalus latus* (all after eating raw meat,) kousso was freely used, and in every instance brought away large masses of the parasite, but the head in no instance. In one of the cases the patient alleged that he had been for a long time troubled with *seat worms*, which annoyed him indescribably, coming from him frequently when walking, or riding in his carriage, or in company, or at meals. The annoyance had continued for several years. He was desired to show the worms, some of of which he had preserved in spirit. They proved to be proglottides or segments of tapeworm, and were capital representatives of what were called in the older books *Vermes Cucurbitini*, or gourd-seed worms. Several recurrences of the use of kousso with the aid of compound cathartic pills and castor oil and turpentine, gave final relief.

In the case of a child brought from a distance, the parents were in despair, because, as they said, the worm, or worms, always reappeared after some two months of relief, no matter what was the treatment. We used with this child kousso in the various forms of powder, decoction, syrup and fluid extract, and finally in combination with large doses of sulphur. After bringing away masses of the parasite, and finally a long attenuated neck without the head, a somewhat prolonged course of sulphur, aided with cinchona bark and iron, gave a most satisfactory result, six months having now passed without any reappearance of the worms, though the remedies have been given from time to time by way of precaution.

GOLDEN SULPHUR OF ANTIMONY IN CARDIAC NEUROSES.

We are indebted to Bouchardat's *Annuaire de Therapeutique* of some years back, for a suggestive article on this subject by Dr. Fauconnet, who suffered for a long time with cardiac disease, apparently neurotic, which was eminently benefited by this agent, while others were useless or worse. After using it in his own case so successfully, he used it in many cases of cardiac disease very beneficially.

We have been led to make free use of it in cardiac neuroses of various forms, and generally with satisfactory results. And as organic cardiac diseases are always attended with neurotic disorders, the agent acts well at least as a palliative, moderating the heart's action and relieving pain, even in incurable cases. Most patients generally bear it in doses of gr. i., *ter die*, with or without the addition of such remedies as iron and quinia. (R. Sulph. ant. aur. sulph. ferri. exsic. Sulph. quin. aa. gr. x. Make 12 pills. S. One 3 times a day.) Bouchardat thought its remedial effects probably due to some contamination of the drug with arsenic, an opinion based solely upon the fact that this contamination has been sometimes observed. Be it as it may, we have had many cases confirming Dr. Fauconnet's experience.

EXTERNAL AND MECHANICAL THERAPEUTICS.

THAPSIA PLASTER.

We have been in the habit of using for some years past, what is called *Emplatre Revulsif de Thapsia*, an irritant plaster prepared in Paris from the Thapsia garganica, an Algerine plant. This plaster worn for a few hours (12-24-48) produces an erythematous rash, and a miliary eruption, which continues for a few days, and then disappears. Its influence is far more persistent than that of sinapisms, and less so than that of croton oil or cantharides. It is very convenient of application, and the most unpleasant effects ever observed so far have been nothing more than intense itching, especially when a flannel garment is worn immediately over the irritated surface. It appears to be appropriate in nearly all cases where a moderate counter-irritation or derivation is required. Many of the gentlemen here probably are familiar with its use, yet certainly it is not so extensively used as it deserves to be by members of the profession.

PARACENTESIS THORACIS FOR THE PRODUCTION OF SLEEP.

Physicians find many cases in which hypnosis cannot be safely procured by narcotics, and yet where the patient must sleep or die. In such conditions we are obliged to use other agencies. In the case of an octogenarian, who had suffered for some time with such complete insomnia that death was imminent, we were enabled to gain time, and to relieve the patient of great distress, by drawing off, in all, some seven pints of serum from the pleural cavity. In this case the heart's action was greatly impaired, and we concurred with the attending physician (Dr. Tall) in diagnosticating fatty degeneration, there being at the same time a great development of the *arcus senilis*. There was, moreover, general dropsy. After the first operation, effected with Dieulafoy's aspirator, the patient fell off into a sound, sweet sleep, the first enjoyed for several weeks. The tappings did not save the life of the patient, but they certainly rendered his last days more comfortable, and probably for a short time prolonged his life.

CHOREA.

By O. W. Weeks, M. D.

It is not my purpose at present to enter into a general discussion of the causes and sequences of chorea, but briefly to give the history and treatment of a case which has been very interesting to me in several respects, and which is the second case I have treated in the same family (the other a boy thirteen years old). Among the number of cases I have treated, I must confess no one has aroused my sympathy more than the case related.

Ascarides, fright, cold, intestinal irritation, vitiated secretions, the changes produced in the system at the approach of puberty, etc., are attributed as causes of chorea.

Whatever may have been the cause in this case, I am glad to say has subsided, and the patient claims to be much better—comparatively well.

Mary B., aged nine years last January ; complexion fair, dark hair and eyes, weighs fifty-seven and a half pounds. Was brought to my office for treatment during the first part of September. Her appearance was pitiable. Her right hand, arm, face and eye were more involved apparently in the twitchings than any other part of her body. The contortions of countenace and clonic movements of the hand were of ludicrous appearance, yet the case was calculated to awaken the sympathies of the spectator. Her treatment consisted in iron scales gathered from the blacksmith's anvil, ten grains at night, and the following:

R Zinc. Sulphas ℈ i
Aq. Menth. Pip. ℥ iss
Tr. Gentian. Co. ʒ ii
Syr. Simplex ʒ ii

Mix S. Teaspoonful three times daily.

R Sulphur grs. cxl (140 grs.)
Sub. Carb. Ferri grs. xx

M. Ft. Pulv. No. xiv. one every morning before breakast.

At present the patient is taking nothing but the iron scales. She informs me that she can write and use the right hand as well as ever, and thinks she is well. The twitchings and all symptoms have subsided, and the little patient attends school every day.

REPORT ON THE PURITY OF DRINKING WATER.

By Charles McIntyre, M. D., of the Northampton County Medical Society.

If any one wishes to know the etiology of this paper, reference need only be made to the resolution adopted by the State Medical Society at their last meeting, recorded in the *Transactions*, voi. x. 19. This resolution on cremation, burial grounds, water supply and zymotic diseases, affords, by an easy accommodation, the text on which the question may be founded: What constitutes pure water? and how may the impurities be detected?

These questions have been extensively examined and written upon, learnedly and otherwise, and, perhaps, include in the writing as much newspaper controversy during the last decennial as any other scientific subject. It has been discoursed upon technically from various standpoints, *e. g.*, chemical, hygienical, as a purely physico-sanitarian subject, etc. etc. Consequently a comprehensive paper would include much that is controversial and of abstract questions, involving little that is practical, less perhaps than noninteresting to any one but the specialist. Suffice it to say that this paper lays no claim to comprehensiveness. Its object is to place in order before you much that you certainly know, some few things that you may not, and, by thus grouping them, have you make the deduction obvious enough from the facts.

Pure water (that is, two volumes of hydrogen and one of oxygen condensed to a liquid) is a solvent of more substances than any other single menstruum, and the substances thus dissolved have still their power of chemical action unaltered—they can combine or decompose with the same power as before; this general statement is so near universal that it has few or no exceptions. Now clearly every substance dissolved in this oxide of hydrogen is an impurity. But there are certain impurities (using the word in its strictest sense) which render the water more palatable, and do not diminsh its wholesomeness; hence it is not a *perfectly pure* water that is sought.

All the possible impurities of water can be arranged according to the following classification:—

A. As to its method of combination, they may be held by—(1) Solution; or, (2) Mixture (in suspension).

B. As to the previous physical condition of the impurity, it may have been—(1) Solid; (2) Liquid; or, (3) Gaseous.

C. As to its origin. Either—(1) Inorganic; or, (2) Organic.

D. As to its present chemical condition, it may be either—(1) the same as when united with the water; or, (2) having undergone some chemical change.

Note.—It is possible for certain impurities to undergo a physical change, so to speak, *e. g.*, the settling of a sediment or the escape of a gas, and thus change the quality of the water at different places or times.

Waters may be roughly divided into two classes, potable and mineral, this division depending on the amount of inorganic impurity. The meaning of these terms is sufficiently clear to use without attempting to draw a sharp line of demarcation, since that would involve a discussion foreign to the purpose of this article.

It is proposed only to look at the class, potable waters. The influence of inorganic impurities may be dismissed with a word.

The hardness of a water is due to some mineral impurity, generally compounds of lime or magnesia. The quantity of the various inorganic impurities necessary to produce their deleterious effects, as manifested by symptoms well known to you all, depends largely on the idiosyncrasy and habit of the person. The methods of testing for these substances are given in every elementary textbook on chemistry, and need not claim our attention here, remembering, however, that in most instances the water must be evoporated considerably, before applying the tests. Waters containing certain impurities (as also pure water), are liable to form soluble compounds, of lead by flowing through pipes of that material; this should be kept in mind in endeavoring to find the cause for any case of lead poisoning. But it is to the organic impurities that it is desired to direct your attention.

Organic impurities may *have their origin* either in vegetable or animal life. These may *exist in the water* in one of two forms; I. In the same condition as it existed in the organism; or, II. after having undergone some change (which may take place before or after it is combined with the water). This change, which may be termed a retrograde metamorphosis, is one tending toward inorganic compounds, *i. e.*, from more complex to less complex, continued until the result is inorganic matter.

Note.— The only evidence left of the former presence of organic matter may be some of these inorganic compounds formed by the decomposition of organic substances, *e. g.*, carbonic acid, nitrous and nitric acids, ammonia.

Cabon, hydrogen, nitrogen, and oxygen are called organogens from their great preponderance in organic material; if we add to these sulphur and phosphorus, while existing in far less quantities, from important retrograde compounds, these will include all the elements forming organic impurities of which we need take cognizance.

Organic compounds containing nitrogen are more readily decomposed, as a rule, than those without this element. This is especially true of the nitrogenous compounds found in water. Many of them supply food to the various ferments, thus causing the decomposition of other substances, even if they are non-nitrogenous. Thus theory unites with practice in affirming that nitrogenous organic matter is more injurious than those varieties which do not have this element. Animal matter includes more compounds containing nitrogen, and the nitrogen in greater abundance than vegetable.

When, however, any decomposition is complete and the resulting compounds are, so to speak, inorganic again, they in and of themselves exert no more injurious effect upon the water than if they had a purely inorganic origin, and are no longer capable of aiding any septic or fermentation process; *e. g.*, if a water should contain nitric acid, the sole result of the deposition of some animal refuse in a stream, its effect on the water will be precisely the same as if an equal amount of manufactured acid were purposely mingled with the water. But the presence of these ultimate products of decomposition generally indicates the presence of *organic matter* not yet fully decomposed, consequently capable of exerting an injurious effect upon the water, which material may be difficult to detect; and, since a very small amount of septic material may do a large amount of damage, the presence of even these last products of decomposition are to a certain degree witnesses against the purity of the water.

Note.—The strength of this evidence depends first on the substance found, ammonia being stronger evidence than nitrous acid, and both of them more damaging than nitric acid. Secondly, on the amount of the impurity; snow water frequently contains ammonia, and rain water nitrous acid, yet both are examples of the purer sorts of water.

The source of these ultimate nitrogen decompositions should be carefully considered in determing the character of a water from their evidence alone.

Thus the detection of ammonia or nitric acid in a water where the organic impurities could only have a vegetable origin, would not be so indicative of the presence of nitrogenous matter partly decomposed, as if the source were animal. This is clear enough, when we consider the small amount of nitrogen found in vegetable structure, and that, without it existed in exceptionally large quantities, the forces at work to produce the change is enough to show the reaction would have worked the same change in all the nitrogenous material. On the contrary, the abundance of protein substances in the animal world justly raise a doubt in one's mind that there may be traces of the old material lingering.

Now if these familiar facts have been strung together with any degree of clearness whatever, the following conclusions are evident.

That animal impurities are most injurious. That the presence of certain compounds of nitrogen generally informs us of the original contamination by animal matter. That there is a time when all this animal matter may be changed into innoxious material.

What are the injurious effects produced? To enter upon this question would be to prolong this paper beyond reason. One need only refer to the more recent literature on typhoid, typhus, and the zymotic diseases generally, to show at least the importance of avoiding risk of such effects.

How are the waters made impure? Here let the question be confined to animal material; it is true that an excess of vegetable material would prove injurious, but this condition exists so seldom that it can be eliminated. The great sourcess of impurity are the emptying the ordinary domestic sewage, including excreta, the refuse of many forms of manufactories, offal from slaughter-house, etc., into the source of water supply; undoubtedly, in certain positions and under certain conditions, graveyards would contribute their share of contamination. A very effectual method of contaminating water by a process of natural sewage, is by the percolation of the liquid contents of privies through the ground and mixing with the water that supplies the wells.

How are these substances to be detected? Of course, in a paper of this character, to give more than the merest outlines of the tests would be to extend its length to an inordinate degree. I shall endeavor to describe each tests so clearly that they will be practicable to practitioners having the ordinary recollection of chemistry, and to give such tests as will detect an ordinary amount of impurity; still in cases of a doubtful nature, the water had better be submitted to a professed chemist for his opinion, with a request that he furnish the methods of analysis employed, in his report; which should include the more delicate use of most of the tests given below. It is also to be noticed that these tests are only qualitative in their character.

Scheme for the Detection of Deleterious Organic Material in Water Used for Domestic Purposes.—If the water is turbid, filter; observe any peculiarity in appearance, odor, or taste.

A. Evaporate a portion to dryness; heat the residue at first gently and then more strongly.

Note.—This must be performed in a clean vessel; if porcelain or glass is used, it must be used with great care toward the last to prevent fracture. The evaporation to dryness may be conducted on a water-bath.

(1) The residue blackens; carbonization indicating organic material.

(2) There are sudden combustions or deflagrations, with or without blackening; *nitrates.*

B. Let another portion of the water stand exposed to light and air for several days, it becomes putrid or shows the presence of organic growth; organic material, probably nitrogenous.

C. To a portion of B—whether putrid or not—preferably, or a fresh portion add some *pure* sulphuric acid to decided acid reaction, then of a solution of potassium permanganate, adding as such as would clearly tinge an equal volume of pure water.

(1) It is decolorized; probably organic material.

Note.—There are severrl substances which decolorize the permanganate solution which are possible to be present, though it is not probable.

(2) It is not decolorized; absence of easily oxidizing organic matter.

D. In another portion [of B] test for ammonia by Nessler's reagent; its presence is usually strongly indicative of animal organic matter.

E. In another portion add some starch paste, to which has been added some potassium iodide [1 part potassium iodide, 20 parts starch, 500 parts water, is the proportion for the reagent according to Fresenious, *vid.* Qual. Anal., viii. Eng. ed. p. 291], and some dilute sulphuric acid. A blue coloration; *nitrous acid.*

F. Dissolve a few crystals of morphiæ sulphas in sulphuric acid (which it should do without change of color), add to this solution a few pieces of the residue by evaporation (which can be obtained from A *before* it is heated). A reddish coloration; *nitric acid.*

G. Add a solution of nitrate of silver to a fresh portion of the water after a previous acidification with nitric acid, a white curdy precipitate or an opalesence; chlorine.

H. Sulphydric acid can be detected either by its odor, or the escaping vapor on boiling, blackening a piece of paper moistened with an acetate of lead solution.

Note.—For a more complete description of the above tests, together with a familiar discussion of their merits, please refer to an article in the *Phila. Med. Times*, v. 357 (March 6, 1875), on the detection of organic matter in drinking water.

How may water be purified? Of course, the best treatment is the prophylactic, and we should always endeavor to prevent water for domestic purposes from being contaminated; this can frequently be accomplished by a careful attention to drainage and to the position of wells or water supply. In single houses this problem is usualy a simple one. When, however, we have to deal with houses collected into villages, towns, or cities, the problem becomes more and more complex, involving the proper collection and disposal of sewage of all kinds, the purification of any water that may be contaminated by organic material, as well as economic considerations; the discussion of which is foreign to our purpose. Nature gets rid of organic material by completing the retrograde metamorphosis; either by direct oxidation through contact with the air, or, should the compounds be protein in their character, it may serve as food for fish, and by them be eliminated in a less complex form; doubtless aquatic plants in many instances aid in these changes. Should we desire to hasten the purification of water, our efforts would be directed either to the removal of the impure material or changing it into a harmless form. If the impurities are solid, the process of filtration will serve to remove them (sand, sponge or porous earthenware—biscuit—being usually employed as a filtering agent). When any form of charcoal is used, we have in addition to the filtration the well-known absorbent action of the charcoal; and many waters can be purified through charcoal, when an ordinary filtration would not improve them. If there are any living organisms present, boiling the water will kill them. Sulphuric acid, alum, etc., have been employed to remove various impurities. Then we can hasten the oxidation, either by increasing the surface exposed to the air, *e. g.*, pouring from one vessel to another, or, what is still more efficacious in many waters richer in organic material, mix in it a small quantity of potassium permanganate, boil, when cool, filter, and agitate in the air (simply to remove the "flat taste" posessed by boiled water).

The importance of the subject and the comparatively little attention paid to it, except by sanitary engineers and chemists, are an excuse for the length of this paper. While nothing new is presented, nor yet any thing profound, it is hoped that the arrangement of facts is so natural, and the deduction sufficiently logical, to anchor in your minds the heretofore floating facts concerning the nature of water and its organic impurities.

Selections.

CLINICAL CONVERSATIONS.*

By L. Duncan Bulkly, M. D.

The points I shall endeavor to make most prominent during our meetings together this fall are, first, diagnosis, especially differential; and, second, treatment. And by treatment I do not mean to give the treatment which others employ, the possibilities of therapeusis, for these may be learned from the text books, but I wish to impress what I consider the best treatment for each individual case, in the peculiarities in which it presents itself in the patient before us. I shall, therefore, endeavor to avoid disputed points, except where the indications are particularly clear, avoiding also historical questions. We will endeavor, however, from time to time, to make use of new remedies and measures as opportunity offers; also to test different methods of treatment in the same disease.

Case 1. *Tubercular Syphilis.*—There are two or three features in the case before us which, before making a close examination of the case or taking the history, convince me that the patient is suffering from syphilis. I do not allude so particularly to the eruption, which, as you see, affects the face, as I do the other points of which I am about to speak. First, there is the expression of face, a peculiar dejected look made up of two elements, the one a consciousness of shame, the other one of hopelessness; for very many patients as soon as they learn by the eruption that they have constitutional syphilis, or "the secondary," as it is commonly called, feel a great oppression of spirits, which, together with the shame of the disease, generally exhibits itself in an unmistakeable *facies.* This sign of course must not always be expected, for many have syphilis without the remotest idea of its nature, while not a few, in private practice, are sinned against instead of being themselves the guilty ones; where it exists, however, it is of service. But there is in this patient another sign of syphilis, which I would wish you to recognize and have impressed upon the mind, and that is the peculiar earthy hue she exhibits; this is seen not only in the face, in striking contrast to the diseased skin, but is marked also on the arms. The color is not a leaden one, nor is it sallow, but a mixture of the two, an earthy hue, which is more apt to develop in women, though I have seen it in male syphilitics. This is not the later anæmia of syphilis, but is an appearance which may, especially in females, be seen early in the disease.

Looking now at the eruption, for which she comes to us, we find it as follows :—The face and neck have, perhaps, twenty-five patches of disease upon them, irregularly distributed ; at a little distance these appear of a dark purplish brown color, of varying sizes, mostly circular, from one-third to one-half an inch in diameter, which, on close examination, are seen to be slightly elevated above the surface, covered with a small amount of scale, which hardly interferes with the coppery color of the tubercles, and on taking them between the fingers they are felt to be new formations in the texture of the skin. Here on the left side of the cheek, just above the angle of the mouth, there is an ulcer, about an inch in diameter, round, edges sharply cut, and with an uneven base, secreting a greenish colored pus ; and there is another one, very similar, on the outer side of the left fore arm, just above the wrist. On examining these they are found to have for a base tubercular masses resembling somewhat the smaller ones scattered over the face.

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* Cases shown and remarks made to private classes at the Demilt Dispensary, New York. Reported by Robert Campbell, M. D., Clinical Assistant.

Now, what are the diseases which this might possibly be mistaken for ? Some of the smaller patches on the face remind us of certain forms of lupus, and this is the disease which you will more commonly be called upon to differentiate from syphilis : perhaps psoriasis might be suggested by the appearance of some of the patches or even the ever-present, eczema. Lupus would not appear in such a scattered form, with so many isolated portions ; nor would the variety of lupus resembling the harder portions of this eruption with slight scaling, that is lupus erythematosus, exhibit such ulcerations as those here. Psoriasis seldom attacks the face and neck as extensively as this without existing elsewhere on the body ; the color is of a lighter red, and the scales more abundant than these, while dry patches of eczema differ entirely in appearance, are not as sharply defined, and moreover, would itch more or less, which she will tell you this eruption never does : nor would psoriasis or eczema present these ulcerations. I cannot think of any other disease with which this could be confounded. It were unreasonable to suggest acne, whose indurated form, even, could hardly remind one of this eruption. In the former, the indurated masses are generally somewhat painful ; pus may often be detected in them, and the thick doughy skin, with comedones, common in this, is quite different from the thin, earthy integument of this patient.

Taking her history we find she is 25 years old, has been married six years, but has not been living with her husband for six months past. She has had three children, the youngest of whom died of cholera-infantum, about three months ago, at five weeks of age, the eldest died at two and a half years, of diphtheria, two years and a half ago, and the middle one is now living at two and a half years of age. She says these were all healthy, and never had any eruptions, nor had she any miscarriages. These facts might excite surprise and incline against a syphilitic explanation of the present appearances, but going further, we learn that only two months ago she had an eruption covering the face, body and limbs, and that this is, indeed, but the remains of it. This eruption is a secondary one, and not the gummy deposit of later syphilis ; and although such ulcerations as you see on the cheek and arm are not common within the first few months of the disease, still they are occasionally met with, especially among the poor classes, with broken-down health. The infecting chancre may have been just before the marital rupture, and possibly the cause of it, which would then place the general eruption at about four months after infection. The form of eruption indicates a stage of the disease which would almost exclude the chance of its having been acquired since. You see some remains of a pustular eruption in the scalp, which points rather to a recent infection, so that she may have had healthy children and no miscarriages, and yet have constitutional syphilis, a recognition of the natural history of the disease being here of some assistance in the diagnosis. The fact that the youngest child, born about four months ago, escaped syphilitic infection also indicates the recent character of the disease, as a mother may acquire syphilis late in pregnancy and the fœtus escape. I forgot to say that she gives no history of the primary sore, and this, you know, is not uncommon in females, the chancre being often seated on parts where they are unnoticed by the patient, and giving no annoyance, they are unaware of their existence, the small amount of secretion from the true primary sore favoring this.

We will order for this patient a common prescription, the iron and bark being especially called for by her anæmic state: R. hydrarg. bichlor. gr. j. ; potass. iodidi, ʒ iv. ; ferri ammon. cit., ʒ j. ; tinc. nuc. vom., ʒ ij. ; tinc. cinch. co. ad. ℥ iv. ; M. teaspoonful directly after meals. The ulcerations will heal without any topical medication other than simple cerate, to prevent the dressing from adhering. The prognosis is good as far as the present eruption is conerned, except, of course, that the ulcerations will leave indelible cicatrices, and some of the non-ulcerated papulo-tubercles may, and probably will, cause some absorption of tissue where they exist, and leave smaller scars.—*Archives of Dermatology.*

LOCAL USE OF BROMIDE OF POTASSIUM.

By Martin F. Coomes, M. D., Assistant to the Chair of Ophthalmology and Otology in the Hospital College of Medicine.

The bromide of potassium, in substance or saturated solution, applied to living muscular tissue produces paralysis. The same effects are produced when it is applied to a nerve-trunk or injected into an artery; that is, the muscles supplied by the nerve or artery which the drug has acted in or upon will be paralyzed.

Applied to mucous surfaces it is a local anæsthetic, although this effect is secondary unless used in weak solution, say ten or fifteen grains to the ounce of water. The action of the bromide when applied to mucous surfaces, in substance or saturated solution, resembles that of caustic. Its effects upon mucous surfaces are not visible like those of an ordinary caustic. It does not whiten the tissues, nor is its application painless, as is the case with many caustics. When applied to the schneiderian membrane or palpebral conjunctiva the pain is severe and of a hot burning character. The larynx and fauces are more tolerant to its action than the eye or nose, but the pain is similar in being associated with heat. The duration of the pain is never more than a few seconds. Applied to congested mucous surfaces it disgorges the distended vessels and increases the secretive action of the mucous follicles.

In papillary ophthalmia, commonly called "granular lids," the results of its action are similar to those obtained from the use of the muriate of ammonia. It reduces the hypertrophy, increases the amount of secretion, and allays pain. Its anæsthetic properties alone give it an advantage over the ammonia.

In the treatment of nasal catarrh, where there is a dry condition of the membrane, the bromide, in powder or saturated solution, is an agent of great value. Where there is hypertrophy of the membrane lining the nasal cavaties, with an insufficient amount of the normal secretions, a condition met with in proliferous inflammations of the membrane, insufflations of the powdered bromide or injections of the saturated solution produce excellen results. By its use the secretions of the membrane are increased, congestion lessened, and a marked reduction in the hypertrophied tissues. Its immediate effects in these cases of proliferous inflammation of the nasal cavities is to relieve the patient of that sense of "*stuffiness*" which is most always complained of.

For the last year and a half I have relied almost entirely upon the bromide of potassium as a local agent in the treatment of throat-affections. It has but rarely disappointed me. The results which I have obtained from its use in this class of diseases have been most gratifying. In cases of acute tonsillitis and pharyngitis, it matters not whether in their incipiency or in the advanced stages, a solution of the bromide of potassium, sixty grains to the ounce of water, applied with a mop or with an atomizer every hour or two, will be found to produce well-nigh complete relief. In cases of ulceration the open sore should be touched with carbolic acid or nitrate of silver. In but few cases will it be necessary to re-apply the escharotic a second time. Under this plan of treatment all the painful and distressing symptoms that attend such cases speedily disappear.

In every instance the patients treated with the bromide expressed themselves as feeling great relief immediately after the application of the drug. These statements have been verified by the rapid reduction of temperature in the affected part, the restoration of the functions in the mucous follicles in the vicinity, the disgorgement of the distended blood-vessels, and almost an entire absence of pain during the whole course of the disease.

In affections of the larynx it is equally applicable. I have seen in the larynx a polypus of considerable magnitude disappear by the application of the powdered bromide of potassium once a day at first, then every third day, for a month or six weeks. The tumor was large enough to fall across the vocal cords and produce almost complete aphonia. After the polypus disappeared the patient was subject to attacks of dysphonia upon the least exposure to damp weather. The voice in this case was always partially and temporarily restored by the use of the bromide, but it seemed to exercise no permanent curative effect.

In cases of congestion of the laryngeal mucous membrane, attended with cough, the application of forty- or sixty-grain solution of the bromide with the atomizer is an excellent remedy.

I have used it in the cough of phthisis with encouraging results. I have not been able to give it a fair trial in this class of diseases on account of the number of my cases being too small to draw any definite conclusions. In the advanced stages of phthisis, when the cough is severe, and the amount of irritability about the epiglottis is so excessive as to excite retching and vomiting, I think it is preferable to cough-mixtures.

My experience with the bromide in cases of œdema of the glottis has been very limited, having only seen one case, and that in twenty hours after the first application of the drug. The patient was under the care of my friend, Dr. D. S. Reynolds. He told me that when he first saw the patient her face was livid, countenance anxious, and a state of general excitement prevailed. The glottis was almost closed, the chink not being larger than a quarter of an inch in diameter. To produce this state of things it is left for the reader to imagine the amount of effusion which must necessarily take place to bring it about. The doctor applied the powdered bromide directly to the œdematous parts with a brush, with the effect of relieving his patient in the short space of twenty minutes. I saw the patient on the following evening, and to all appearances she was well, her breathing perfectly easy, and the countenance presenting its natural appearance, whereas but a few hours before she appeared to be suffocating, with eyes aglare and face of purple hue.

Its application might be somewhat difficult in children. In cases where the drug can not be used in powder with a brush, the tongue may be drawn forward, and as much as a teaspoonful of the saturated solution poured on its base, and the organ held until the patient begins to strangle, which will be as soon as the solution reaches the larynx. This seemingly cruel mode of administration may appear to be attended with danger, but there can be nothing more than temporary strangulation, which will excite violent coughing, an act that may in all probability cause the distended membrane to rupture, and in this way relieve the patient. Free incision of the œdematous membrane will afford relief; but it requires an experienced hand to make the incision. In spasmodic affections of the glottis I think the bromide promises to be an invaluable agent. I have used it in one case of spasmodic croup with the happiest result. The patient was a very fleshy child, six years old, and was subject to such attacks. When I first saw her she had the croupy cough, with difficult breathing and livid face. I sprayed her throat with a solution of the bromide of potassium, sixty grains to the ounce of water. She was relieved of all unpleasant symptoms at once. I ordered the application to be repeated if the symptoms returned. The repetition was not called for until seven hours subsequently, when upon a return of the spasmodic respiration the spray was repeated, and the disease did not again return.

PROFESSOR MOLESCHOTT, OF BERLIN.

Letter from Professor L. C. LANE.

Berlin, Prussia, Oct. 27, 1875.

A few weeks ago, having had the honor and especial pleasure of passing an evening in the company of the celebrated Professor Moleschott, I think that a few notes concerning him would not be uninteresting to your readers.

Jacob Moleschott is the son of a Holland physician, and received his education both in Holland and Germany and hence his early culture was a mixture of two different elements; the one in which the eminently practical nature of the Hollanders figured; the other, in which the germs of Teutonic transcendentalism were implanted in him. He studied physiological chemistry in the laboratory, and under the guidance of the famous Mulder, the rival and almost hostile antagonist of Liebig; in fact, as Dr. Dunglison used to say, Liebig and Mulder seemed to aim particular at destroying each other's work. As an example, Liebig taught that the coloring matter of the blood depended wholly upon the iron constituent; whereat, Mulder set at work, and having extracted all the ferruginous matter from the blood, exultingly announced: "Behold, the *deferrated* blood is still red," and on his part claimed that the color depended on the change of form which the blood cells undergo, viz: when arterialized and decarbonized, they resemble doubly concave pessaries, but when in a venous state, they resemble doubly convex pessaries. It was, as said, from one of these famous masters that the young Moleschott received his elementary training in medical chemistry, as well as those impulses which in later years induced him to gird on his armor and enter into the lists against his master's opponent, the famous Liebig.

His attention to German literature made, also, an enduring impress upon his mind. Hegelian philosophy, to which his youthful heart was devoutly attached, almost bore him away captive into its immaterial ethereal domain; its seductive "trilogies" took a strong hold upon his enthusiastic mind; yet the wonders which the laboratory was then revealing finally had the ascendant, and gained for medicine and physiology one of the most earnest workers and explorers. The ethereal and cloud realm which German philosophy has fashioned for the habitation of the students and idolizers, with its never to be realized dreams and its intangible chaplets of sunbeams, soon lost its hold upon a strong, practical man like Moleschott, and all that remains of his early life in that direction is an occasional rhetorical flower, which he anon lets fall along the rocky pathway which, as naturalist and medical writer, he must follow.

The extended scholarship and brilliant natural talents of Moleschott soon attracted attention, and more than one position as teacher was offered to him—places highly flattering to one of his age. When quite young he was chosen to fill a professorship in Heidelberg. About this time he became engaged in his controversy with Liebig—one of the most remarkable controversies which can be found in the annals of physiological chemistry. Almost all my readers are probably aware that Liebig, a number of years ago, published a series of papers or letters upon agricultural chemistry; they were translated into English and had a wide circulation in our country. But it is probably not as well known that a reply was written to these papers, likewise in a series of letters, by Prof. Moleschott, in which he took direct issue with Liebig, and with an irresistible logic, based upon results drawn from carefully conducted experimentation in the laboratory, Moleschott has shown the incorrectness of many of Liebig's captivating theories. Nor did Moleschott limit his criticism to Liebig's agricultural papers; he boldly attacked, and to any one's satisfaction who will read his arguments, Moleschott has completely overturned the beautiful generalization of Liebig's, wherein he, after dividing all foods into two great classes, viz: proteinaceous and carbonaceous, has assigned to the latter the single office of generating animal heat. Moleschott has clearly shown that the carbonaceous group subserves many other purposes in the animal economy than as a mere calorific agent; in fact, that the heat produced is but an accidental concomitant, and by no means limited to this group; heat, in fact, resulting from numberless chemical agencies in the living body.

In Le Sage's "Gil Blas," a wonderful store-house of quaint wisdom and proverbial philosophy, he tells a charming story, illustrating the ill-favor that is apt to fall upon the critic's head, even though his services may be invoked by the writer. In brief, the story was this: Gil Blas was employed in the house of an ecclesiastical functionary, who was a most gifted and eloquent preacher; he was, however, growing old, and, wisely enough, apprehended that ere long his powers must fail, and fearing that this might happen ere he was aware of it, he, in a confidential mood, told Gil Blas his fears, and asked him to carefully watch each sermon, and if he noticed any falling off from his pristine power, to at once acquaint him with the fact. Not long afterwards, the appointed critic saw unmistakeable evidences of what his master had feared, and in accordance with his commission, he told the old preacher so, taking care, however, to do it in the most guarded language, even adding, by way of blandishment, that though there was a falling away from his former eloquence, yet that the sermon in question was better than any one else could deliver. But such was not the notion of his master; the latter, quite forgetting his clerical dignity, flew in a rage, declaring it was one of the best sermons he had delivered in his life, and soundly rated Gil Blas for his impertinence and little sense, and ordered him to quit his house, as he would not tolerate such a simpleton in it.

This little bit of pleasant history was, to a considerable extent, repeated in the case Liebig and Moleschott. Up to that time they had been excellent friends, and so much so, that Liebig recommended his young friend to an important professorship. Hence, as Moleschott told me, he felt great delicacy about opening the controversy, and, in fact, decided not to do so until he had visited Liebig and had acquainted him with his design. He was most cordially received, Liebig actually encouraging him in his task, so that the young man went to his work with free heart and good earnest. But when the shot came and cruelly shattered the citadel within which Liebig had intrenched himself, and quite overthrew those splendid theoretical structures, the pride of his heart and the work of a life, and which he had hoped were built for eternity, Liebig quite forgot his philosophic complacency, and remained forever afterwards an irreconcilable foe of Moleschott. The influence of Liebig was very great in Germany, and it is probable that it called into play those agencies which finally drove Moleschott from his chair as Professor at the University of Heidelberg, and following into Zurich, where he received an appointment again, eventually succeeded in exiling him, so to speak, from Germany.

As is well known, Moleschott was one of the pioneers of Rationalism in Germany ; in fact, he may be designated as its great apostle ; indeed, in his controversy with Liebig, not unfrequently the battle shifts from the field of Chemistry to the ground of Rationalism. His bold announcement of his opinions was for a time used as a weapon against him ; but as Rationalism soon received unlimited naturalization papers upon German soil, all objection to Moleschott, on that account, ceased ; but in another respect, Germany stands, as yet, far distant behind him—that is, in his advocacy of individual liberty. His republican spirit did not find sufficient freedom upon German soil. For these reasons he sought a more congenial home elsewhere, and finally, having received an invition to fill a chair in the University of Turin, he moved thither some twelve years ago. He was then nearly forty years old, and almost unacquainted with the language of the country where he was chosen as Professor. It is not a difficult task for any one to learn enough of a foreign language to meet all the exigencies of travel, or even for commercial purposes, but to so master a new tongue, within the space of a few months, that one could stand before a class of advanced students and address them an hour every day, upon an abstruse subject, would be deemed by most persons, even though they possessed unusual linguistic aptitude, quite beyond the range of possibilities. Yet Moleschott did this, and, as he told me, for the first year almost without any embarrassment ; but strange to say, the next year he began to lose confidence in himself, and, for a period, he was afraid that he would fail. From this, however, he soon rallied, and from that time he had never found any difficulty.

The researches of Molesehott have been directed to the investigation, chiefly, of the subject of nutrition ; to take up each element that is received as food, and to follow this in its various changes and combinations as it traverses the living organism. Thus, with blow-pipe, crucible, test tube and balance, he has done more than any living man in tracking each atom in its "strange, eventful" destiny. And to-day, as he told me, he is endeavoring to account for the nitrogen that enters our bodies. He has followed it to the nails, hair and epiderm, and is on the eve of unveiling some curious secrets in these tegumentary structures, which will probably throw some new light upon the influence of climate and the capability of the animal body to resist cold. Earlier in his career he was occupied with the study of the nervous system, and then discovered the inhibiting action of the inferior recurrent nerves upon the heart.

He is a geniuine Hollander in type, of strong, healthy physique, of most happy, genial temperament, and of great capabilities for work, of which, as he is but a little over fifty years old, much may yet be reasonably expected of him. Upon my telling him that our profession would be much delighted to see him America, he seemed pleased, yet he said that it was not possible for him to take a long journey; and in the reason which he gave for this, he showed the kindness of his heart and the strong hold which suffering humanity has upon it, for said he: "I love the profession of medicine so well, that it has become an actual necessity of my nature that I devote a few hours daily to the practice of it."

He speaks English with great fluency and accuracy, so much so that during a previous visit of over a half hour's length, he made, during rapid conversation, but one grammatical error. He is well acquainted with English and American authors; has a considerable knowledge of our State, and stated as his source of information, Hittell's "Resources of California." He spoke in high praise of our Longfellow, and taking down a volume of his poems, he desired my wife to read a certain poem, which was one of his favorites. Upon my complimenting him upon his excellent knowledge of our language, he replied that languages had been the bane of his life, and that it required a great effort on his part, as well as the aid of his wife, to prevent him from devoting an undue amount of time to them. Even recently he had taken up Spanish, and was reading with great delight the famous Knight Errant Classic of Cervantes.

It was a great pleasure to meet such a man and listen to his living words, and we were not aware of how rapidly the hours had passed, until, having left his house, we saw the half moon hanging low in the west, and on the eve of being lost behind the semi-tropical groves that bordered the banks of the famous river that flows near by his residence; and as our steps bore us slowly homewards, the recent words of the great scientist lingered like a spell of enchantment in our memories, which gathered force as the rippling music of the classic Po fell like magic upon our ears, and our eyes wandered amidst the "isles of light" of a cloudless Italian sky, whose ethereal purity was touched by naught earthly, except where, far away in the northern horizon, the Alps arose and dipped into its spotless blue their snow-covered peaks.—*Pa. Med. Journal.*

RETRACTION OF THE HEAD IN CEREBRO-SPINAL MENINGITIS.

Two interesting facts in connection with a remarkable symptom of this disease—I allude to the retraction of the head—deserve to be mentioned here. The first is the occasional long continuance of the rigidity after all constitutional and local symptoms have disappeared. I saw a boy in whom the retraction was so great that he could lie only on his belly, and in this position he remained for several weeks, during which time his general health was excellent; he took much nourishment and gained flesh. In another case the retraction did not appear until just at the subsidence of the constitutional condition. It increased with the patient's convalescence until at last, when all febrile condition had ceased, it because so extreme that his head was bent backwards almost at a right angle with his body. This extraordinary retraction subsided with remarkable rapidity, and had quite vanished within 48 hours.

The second point is the occasional persistence of the rigidity after death. It has been supposed that the muscles which have been thus contracted during life are not liable to the *rigor mortis*, but in a remarkable case published by Dr. Gordon in his *Report on Cases of Fever with Cerebro-spinal Meningitis*, all the constitutional and local symptoms of the disease were present, opisthotonos being extreme, and continuing after death. On the fifth day of the disease the patient, a girl aged 15, lay on her abdomen, and refused to allow herself to be moved on the back, or on either side. Her spine presented a most wonderful and uniform curve, concave backwards; her head was also curved backwards on the spine of the neck. Dr. Gordon had not seen so much opisthotonos in the worst cases of tetanus. She had no pain or tenderness on presure on any point of the spine. She died on the ninth day of her illness, and after death the body presented a very frightful appearance. It was still prominently arched forward It was of a dusky blue colour, with a copious eruption of black spots, of various sizes, from that of a small pea to a crownpiece; some small and circular, others large and irregular in form.

QUININE IN PNEUMONIA.

By E. GRIFFIN, M. D., Braniford, Ont.

It is not proposed in this paper to speak of the history of the use of quinine in pneumonia at any length, nor to discuss any of the theories which have been offered to explain its beneficial action, but merely to give here a brief record of a number of cases treated by the writer, chiefly with quinine, in the spring of the present year, 1875.

Pneumonia, with malarial complications, has been extensively treated by quinine from an early period, and with satisfactory results, and the use of this medicine in tedious cases, attended with much debility, has long been common with many physicians.

Dr. Corrigan, and subsequently Dr. Gordon, of Dublin, about eighteen or twenty years ago, strongly urged the use of quinine in asthenic pneumonia, believing that it exerted great power in contracting the venous capillaries and so relieving the great congestion of the lung tissues, its action in this respect resembling the action of the same remedy on the spleen in intermittent fevers. They also maintained that, like ammonia, quinine exerted a defibrinating power on the blood.

Many other physicians, and notably, Todd, of London, subsequently endorsed the views of Corrigan and Gordon, and eventually quinine has come to be very generally regarded in the profession as an important aid in the treatment of such cases.

Within the last few years it has been claimed that this remedy has a high value in pneumonia, and that it exerts a notable power in the disease in all its stages and types, and quite recently extensive trials have been made of excluding almost all other remedies, in hospital practice, particularly in Bellevue and the Pennsylvania Hospitals, the results being regarded as in the highest degree satisfactory.

For many years the writer has been accustomed to resort to the aid of quinine in treating many of his cases of pneumonia, in connection more or less with other remedies, such as Ammonia, Antimonials, Expectorants, Veratrum Viride, Aconite, Gelseminum, Opium, Alcohol, etc., etc., and the impression has never been strong on his mind that any of these remedies, with the exception of alcohol, opium—usually in the form of small doses of Dover's powder—and the quinine, exerted any beneficial influence.

In the beginning of February, of the present year, it was resolved to give the quinine treatment a more extended trial, using it only as the regular medicine, using small doses of opium and external applications to prevent excessive pain, and resorting to alcohol in cases of depression.

With a view more clearly to estimate the value of quinine, no treatment was used in the first stage except perhaps a little opium, and those cases which did not pass to the second stage had no other treatment. On it becoming evident that hepatization of some portion of the lung had taken place, each case was placed on quinine in average daily doses of twenty-four to thirty-two grains.

The number of cases treated in the four months of February, March, April, and May, was thirty, exclusive of three or four doubtful or complicated cases; of these thirty cases eight did not pass beyond the first stage, having shown only moderate dullness, with fine crepitation and the usual rational symptoms. There remain twenty-two cases in which decided hepatization took place, occuring mostly in from two to five days after the advent of the attack. A table of these twenty-two cases, showing some of the more important features, accompanies this paper; they may all be regarded as well marked cases of pure pneumonia, which advanced to the stage of hepatization, the leading signs, besides the constitutional symptoms, being great dullness, and pure bronchial breathing over some portion of one or both lungs. Whether, had quinine been used at the outset, some of these cases might not have been cut short at the first stage, or whether the severity and duration of the subsequent stages might have been lessened, is an important question.

In view of the fact that a large proportion of cases of pneumonia, with all varieties of treatment, or even with no treatment at all, do not pass beyond the first stage, it must obviously always be difficult if not impossible to form any conclusion as to the value of any medicine in the treatment of that stage, except on theoretical grounds. The largest hospital experience can hardly have much value in determining this point, because patients rarely enter a hospital in the first stage of the milder attacks of pneumonia.

If quinine is a remedy exercising a decided power in controlling well developed pneumonia in its more advanced stages, the presumption would seem to be strong that if given in the beginning of the disease, it would act beneficially in promoting its advance, or in lessening its severity and duration. The average duration of the disease in these cases was thirteen days, but had the whole thirty cases been included in the table, it would have been less than nine days. There were two fatal cases, which in thirty cases would be six and two-thirds per cent., the range in a number of cases is not wide enough however to admit of any important inference being drawn from the percentage of fatal results.

Alcohol in the shape of whiskey or brandy was used in nine cases, in quantities varying from four to twenty four ounces for the adult. The use of this powerful agent in a majority of the worst cases certainly lessens the value of any conclusions as to the efficacy of the treatment by quinine; but there still remains abundant evidence in the history of these cases, especially to one who could watch their progress, to show its great value, and the conviction is strong that the practitioner who thoroughly tries the plan of trusting largely to the aid of this medicine, will come to have a feeling of satisfaction and security in managing pneumonia which he has not realized in trusting to other means.

It is believed that it is just in those critical cases where other remedies fail to satisfy him of their value, that he will realize the exceeding value of quinine.—*Canada Lancet.*

AN ELECTRO-MEDICAL DECEPTION.

"It is extremely rare to see a *prima facie* quack advertisement on the covers of any of our reputable medical journals, but when seen there, it is a disgrace to that sheet, and an insult to a learned profession." These criticisms are by the editors of two of the best and widest circulating Scientific and Medical Journals in the United States.

"In proof, there appeared first in *The Popular Science Monthly*, of February, 1873, an article entitled, "Is Electricity Life?" purporting to be a quotation from the English *Belgravian Magazine.* That article discussed several points that are disputable, and was not any way remarkable until there was special reference to the well-known European 'Pulvermacher Chain,' or *Armadillo,* while the latter was assumed to be both head and tail of the former. It spoke particularly of Sir Charles Locock and many other distinguished medical names as endorsing them, while one of them, in fact, had never been heard of, nor seen by them, and no educated physician could ever recommend, nor any intelligent and honorable apothecary, if he understood it, would offer for sale. Some attention was directed to this singular article at that time. Many persons spoke of it, and grieved to see it in that high-toned popular monthly; for the fact of its being there was calculated to mislead many an inexperienced reader to believe, if possible, that this new fangled *Armadillo,* and the Pulvermacher's Chain, were one and the same thing; or at least synonymous, scientifie, and well endorsed. That Chain of zinc and brass wire was a sort of battery, and gave a current, as a whole, that *promised* much in practice, and *for this quality,* as a mild and constant medical application, it was early recognized by Sir Charles, and many others of high authority, yet it proved frail, expensive, and difficult to be correctly applied in therapeutics. But as for that quackish "Armadillo," it did not and cannot give a current, as a whole, as shown by a voltametre, though *one thousand such metals should he hitched alternately together in that way, on belt, band, sole or plaster.* They simply corrode, are filthy, poisonous, and disgust. Can it be possible that any member of the regular medical profession, in these days, can be taken in by such barefaced quackery? having merely a semblance, no not even a semblance of pile or battery, and without even a shadow of science or art about it.

"Now, in *The Popular Science Monthly* of 1875, February number, on page 505, we find another article, an editorial this time, and headed 'An Electro-Medical Humbug.' In referring to the said article, that appeared two years before, the editor says, 'its admission into our pages was an editorial inadvertence; the article having been glanced at in haste, and only the first portion of it read. Its object, however, was to puff a quackish device of magnetic bands and soles, to be worn on the limbs for the cure of diseases. They were long ago called Magnetic Belts, then Pulvermacher's Chain Belts, or Bands, then Crystie's Rings, Combs and Belts, next 'Voltaic Armor,' and now revived as 'Armadillo' Bands and Soles, they are advertised as if endorsed by *The Popular Science Monthly.* The advertiser tries to show that the most eminent medical men of Europe and America approve their use (?). Now the publication of that article was a blunder, and the article itself is absurd and worthless. If all editors who happen to have been, at some time, the victims of careless oversight, will copy this paragraph, they may help to protect a great nnmber of too credulous and stupid people, with 'rheumatics' and 'neuralgias,' against being humbugged.

"Every honest medical man must be heartily thankful for these plain spoken words of the gentlemanly editor. Every Medlcal Journal will do service and pleasure to the profession by noticing this article. A clear distinct line must be maintained between advertised legitimate therapeutics, and *prima facie* quack advertisements. We hold that an advertising department, on the covers of our journals, is indispensable. Yes, indispensable to a growing, wide awake medical profession."

But what shall be said when we now behold, for the fourth or sixth time in succession, an advertisement of this same "Armadillo' flaunted on the covers of two of the more prominent medical journals, one in New York and one in Boston, together with a piece of that garbled quotation just refered to, being with and for this same self-styled 'Electro-magnetic Armadillo, but in reality a silly 'Electro-medical Humbug.'

In this connection we would state that the similar device, called 'Volta's Electric Magnetic Chain Belt," never was endorsed by the *Medical Reporter*, and the advertisement, a copy of which we have, containing a long extract purporting to be from *The Philadelphia Medical Journal*. never took that extract from the Reporter; and moreover, no such medical periodical as named is published in this city. The absurd assertion that the belt was made or patented by Prof. Volta (!!) sufficiently stamps the article as a barefaced imposture—[See the *Medical and Surgical Reporter*, Vol. 32, No. 22, May 22, 1875.]

ANEURISM TREATED BY THE WIRE COMPRESS.

William Gardner, aged fifty, formerly a man-of-war's man, lately a lighterman, had met with much rough usage in his vocation, and also in the battles of Venus. He had aneurism of the left carotid, first observed "about the size of a hazel nut," six weeks ago. It was now somewhat larger than a duck's egg, occupying the anterior triangle of the neck, pushing the larynx from the medium line.

November 29th, 1865. The artery, which was very large, was exposed below the omo-hyoid, and an aneurism-needle passed under it in the usual way. A piece of surgical iron wire was threaded through the eye of the aneurism-needle and conveyed beneath the artery by the withdrawal of the needle, which was then detached from the wire. To each end of the wire a straight needle was next attached, and the two needles were passed through the tissues, on the outer side of the incision, being about half an inch apart at the surface of the skin, and the same distance from the edge of the wound; the wire being drawn through and thus looped over the artery, the needles were detached. The half of a vial-cork was placed, the flat side downwards, between the ends of the wire, and firmly pressed down along the course of the artery; the wire was tightly twisted over the cork, stopping at once the current through the artery and the pulsation of the aneurism. The superfluous ends of the wire were cut off and the wound was united by wire sutures. The man was then in a state of extreme collapse from chloroform; in fact, he was to all appearance dead, and was only recuscitated by the strenuous and persevering exertions of my assisting friends. With the recovery of the circulation, there was also a recurrence of feeble pulsation in the tumor. This was allowed to go on till the third day, when the compress was thus tightened. The cork being firmly pressed down upon the artery, and the wire drawn outwards by gentle traction on the twisted end, two small wooden wedges—portions of lucifer matches in fact they were—were pushed in between the cork on the wire; and now, for the first time, the circulation was entirely arrested, and all pulsation and *bruit* ceased. Two hours afterwards, there was again a feeble thrill; so next day, the fourth after the operation, another little wedge was inserted. After that, there was no more pulsation. Fifth day. No pulsation; the tumor was evidently consolidating, and perceptibly diminished in size. One wedge was removed to lessen the tension. Sixth day. The other two wedges were withdrawn in the morning, and in the afternoon, the cork was also removed. The tumor was considerably smaller, and on the seventh day, the wire was withdrawn without difficulty and without blood. Some pus exuded from the track of the wire, and there was moderate suppuration in the wound. Tenth day. It is noted that "the tumor is nearly gone." There was pulsation in the artery up the aneurism beyond the site of the application of the wire, showing that no damage was done to the coats of the vessels. This only continued for a few days, for, as it led to nowhere, the artery was soon obliterated, and, when the man died seven years afterwards, a fibrous cord was all that remained either of the artery or of the disease. In a fortnight the wound was healed and the patient was cured.

On January 24th of the present year, my partner, Mr. Rudd, was called in to one John Hull, and, on his return, reported the case to me as one of femoral aneurism. I saw the man with him the next day. He also was a waterman, twenty-five years old, short, florid, and very fat. There was a pulsating tumor of large size at the lower part of the right thigh on its inner aspect, which was first observed about nine weeks before. It now measured quite four inches and a half in length and four inches across, and was clearly an aneurism of the femoral artery protruding from the edge of Hunter's canal. The whole limb was much swollen. Not to weary with minute details, I would briefly state that pressure was tried for four days without benefit; and it was, therefore, determined to secure the artery by the wire compress, which was done on February 2nd, at noon. The superficial femoral was exposed in Scarpa's triangle, by an incision five inches long and at least an inch and a half deep. A wire was carried under it by an aneurism-needle, as in the previous case, brought out to the surface of the skin about half an inch on the outer side of the incision, and there twisted over the cork—which *was firmly pressed down over the track of the vessel*—till the pulsation was arrested. The wound was closed by wire sutures, supported by a large pad of lint on each side, and long strips of plaster over them. The limb was already bandaged with flannel during the application of pressure, and so it was left. At 3 p. m., there was pulsation in the aneurism. At 9 p. m., there was none. The pain, which had been great, had entirely left him. Next day, at 12 a. m., there was again pulsation. Two wedges were inserted between the cork and the wire; and at 9 p. m., there was no pulsation. Third day; at 11 a. m.; the limb was readjusted on the pillows, and his position made less irksome. There was then pulsation. At 9 p. m., there was a feeble thrill. Fourth day. Slight pulsation; two more wedges were inserted, and the pulsation ceased, to return no more. Fifth day. The limb was diminishing causing the tumor to seem more prominent. The limb retained its warmth and there was no constitutional disturbance whatever. He complained only of being worried by fleas. Sixth day. Tumor less, quite solid. Wedges removed. Seventh day. The cork was taken away, and the wire loosened. It moved in consonance with the pulse. Eighth day. Wire removed without difficulty, followed by one single drop of pus and one of blood. Ninth day. Plasters and sutures removed. The wound was entirely and completely healed. From the time it was closed, there was never the least exudation. The tumor was solid, and much diminished; in fact, the patient was cured. It was some weeks before the tumor was entirely absorbed and the limb regained its strength; but it is now some time since he returned to his laborious occupation, and the only difference between this leg and the other is the large cicatrix and a greatly increased growth of long black hair.

This operation affords the operator a choice of methods—the gradual or the sudden occlusion—according to his judgment. Surely this is an important and material point, one on which it behooves the surgeon to have a definite view. My own opinion—whatever that may be worth—is, that gradual obstruction at first is of immense advantages; that it is more favorable to the cure of the aneurism, by leading to the deposition of lymph; and also greatly diminishes the risk of gangrene by allowing time for the establishment of the collateral circulation, which keeps the limb, or may be brain, alive. If the limb were cold, and gangrene threatening, the compression could be relaxed or altogether removed, and so the impending mortification might be prevented; and although in such a case, amputation might be the only resource, yet this operation would be done at less disadvantage than in a gangrenous limb.

If, on the other hand, all goes on well, and in five or six days the pulsation has ceased, the surgeon has his appliance under his entire control. He first relaxes the pressure by withdrawing the cork, or untwisting the wire; feeling his way, as it were, and still keeping command of the artery in case of need, till, being assured that the desired consolidation has really taken place, he with confidence, aye, with certainty of success, withdraws the wire. Meanwhile, the wound has healed, or, at all events, has had the bast chance of doing so, there being no foreign body to excite suppuration. The artery also is still intact, so that hemorrhage is impossible, and the patient is cured.—*Dr. Hill, Brit. Med. Journal.*

DETROIT ACADEMY OF MEDICINE.

DETROIT, October 28, 1875.

The society met at the office of Dr. Inglis, the President, Dr. Gilbert, in the chair.

Dr. Smith, of Ann Arbor, was introduced to the society.

EXHIBITION OF PATIENTS.

Dr. Cleland brought before the Academy a little boy, nine years of age, who had had scarlet fever in December, 1873. The symptoms were not unusually severe, with hæmaturia at one time. In the spring of 1874 the little fellow was attacked with pleurisy of the left side, accompanied with considerable effusion. After a time, the effusion not disappearing, the doctor decided to evacuate the fluid with the aspirator, but the instrument being defective, he made a free incision, through which flowed about a quart of laudable pus. This opening was made at the middle and posterior part of the thorax. It soon healed up, but a fistula afterwards made its appearance a little below and in front of the thorax, about three inches to the left of the median line, since which time there has been a continued discharge of healthy pus, varying at times in quantity. The incision was made in May, and the fistula occurred in August.

The patient presented, on inspection, a right lateral curvature of the spine, the left lung entirely collapsed, with slight bronchial respiration ; there is considerable displacement of the heart to the right, and also some enlargement of the right lung. The appetite was extremely good, the diet being principally animal. Of late the general condition had not improved much. At one time during the effusion, he had not passed urine for a week. The doctor's treatment had been supportive, and he had used injections of iodine into the cavity. He asked for the opinion of members, and also stated that the patient had tape worm, for which he had done nothing as yet, owing to his condition otherwise.

Dr. Connor thought that he would wash out the cavity with some mild injection.

Dr. Carstens would remove the tape worm at once, regarding it as the cause of the excessive appetite of the patient, and also recommended the washing out of the cavity with a mild injection.

Dr. McGraw stated that he had a similar case in a man, of two years' standing, where there were two fistulæ, one above the fifth rib, and the other below the thorax. The patient's urine was loaded with albumen, and he thought that kidney troubles were more apt to take place in cases where there was considerable interference with the circulation. The doctor had injected dilute muriatic acid into the cavities with considerable success.

Dr. Armor recommended the immediate expulsion of the tape worm, thereby improving the patient's nutrition. He was quite partial, in these pyæmic cases, to large doses of the syrup of the iodide of iron ; a teaspoonful three times a day did not interfere with digestion, and was generally borne well by patients. He also related a case in this connection where a child five days old passed pieces of tape worm. The mother was put upon pumpkin seed, and there was expelled from the child about twenty feet of the worm.

Dr. Smith, of Ann Arbor, stated that in expelling tape worm he had used large doses of turpentine with castor oil—℥ij of the turpentine with a tablespoonful of the oil. He had not experienced any bad effects from so large a dose of turpentine.

Dr. Walker thought that the injection of a mild solution of permanganate potass. into the cavity would prove beneficial.

Dr. Carstens read an intersting paper on "Monstrosities," presenting a specimen of an acephalous fœtus, with spina bifida extending very nearly the whole length of the spine.

Dr. McGraw stated that, as far as he could remember, all the monstrosities that he had seen were from healthy parentage, and that he had rarely seen any cases from parents that were suffering from any constitutional disease.

Dr. Cleland remarked that his observations had been quite the opposite of Dr. McGraw's.

Dr. Armor remarked that the subject of monstrosity necessarily involved questions of speculative physiology. We have facts of observation, and mere hypotheses to explain them. But although a purely speculative question, it suggested to his mind some exceedingly interesting points of inquiry. The mere arrest of development, so frequently alluded to in the discussion, in reality explains nothing. The question is, what causes the arrest of development—the departure from the type according to which the organic species develops itself? Is it a "freak of nature?" or is there a law of departure definite and fixed as that which governs the typically perfect species? To the latter view he was inclined. We may not be able to demonstrate it; but the intellectual conception of it was, nevertheless, to his mind, clear. Among the principal causes of deviation of type he mentioned: First, something deficient or abnormal in the generative or seminal matter of one or both parents. This generative matter he looked upon in representative light. It was for the preservation of the species, and represented in typical perfection all parts of the organism; there is not a tissue, structure or form, however delicate or dissimilar in character, that is not represented in the generative matter of the parents; so that deviation from the normal type may be impressed at the very moment of conception. We recognize this principle in disease; we believe that morbid action resulting from structural imperfection, may commence with the very first evolution of the organism in embryonic life. And if this be so, why not recognize the same law in the more noted forms of deviation in the structure of so-called "monsters." The next point was the faithful transmission of acquired structural peculiarities, when once fully established. Familiar illustrations were given of this law. We can create, so to speak, new species by a rigid process of in-and-in breeding; and what is this, in fact, but the law of monstrosity—the law of disease—the deviation from the type according to which organic bodies develop themselves in their normality? The doctor expressed the belief, in this connection, that by amputating the tails of successive litters of puppies for a long period of times, and at the same time closely in-breeding them, we could by and by produce a distinct species of short-tailed dogs. Now what does this fact prove? Simply that the caudal extremity of the animal ceased finally to be represented in the generative matter of the parents. Finally, it was suggested that the discussion of this subject bears directly upon the great question of evolution: "the strongest and fittest survives;" weak parts of the organism atrophy and die; they cease finally to be seminally represented. The next cause of monstrosities mentioned was such as operated directly on the fœtus in utero. The generative matter may be perfect and fully represented in both parents, but certain morbid influences may act directly on the fœtus during intra-uterine development. These influences, many of them of a mechanical nature, had already been fully represented. Dr. Armor referred, however, in addition, to the well-known experiments of several observers in producing malformations by submitting hens' eggs to various mechanical influences during incubation. By the same process of reasoning, we can readily believe that certain mechanical influences affecting the fœtus in the early months of pregnancy may produce malformations. In conclusion, Dr. A. believed that all causes of malformation would come under one of two heads: they were either generative or mechanical—sometimes one operating, sometimes the other, and sometimes both.

Dr. McGraw thought that many monstrosities might be due to some intra-uterine inflammation, fibrous strings being formed, and producing amputation of the extremities.

Dr. Gilbert related a case similar to the one presented by Dr. C., in a French woman. In the earlier part of her preguancy one of the older children fell from the shed, striking upon its head, which was witnessed by the woman. He was a believer in mental impressions, and regarded this case as coming under that head. This mental impression might be before or during early pregnancy.

Dr. Shurly thought that acquired proclivities could be transmitted to the offspring.

Dr. Carstens stated that Dr. Miner, of Buffalo, thought club foot was due to pressure in utero where there was a lack of amniotic fluid.

On motion, Dr. Spalding was requested to read a paper on "Inherited Proclivities."

PATHOLOGICAL SPECIMENS.

Dr. Bradley exhibited three feet of the ileum taken from a child, showing a constriction where two loops of the intestine had passed through an openining in the mesentery. One of the mesenteric glands was very much enlarged. When the patient was first seen there was considerable vomiting, continuing through the illness, which lasted ten days. Pain was a prominent symptom; no increase of temperature nor any peritonitis. The doctor diagnosed the difficulty intussusception. All remedies failed to produce an evacuation of the bowels, and the patient died from inanition.

Dr. McGraw thought that if we could make out the diagnosis, it was justifiable to cut down at once and relieve the difficulty.

Dr. Bradley reported as occurring in his practice cases of typhoid malarial fever, accompanied with pneumonia.

Adjourned.

NOVEMBER 14, 1875.

The society was called to order by the president, Dr. Gilbert.

Dr. Tiffany was introduced to the society.

Dr. Inglis exhibited a membranous cast of the bronchial tube from a patient having croupous pneumonia of the left lung.

Dr. Gilbert presented to the academy a portion of constricted intestine removed from a man sixty years of age. The sigmoid flexure was twisted over the descending colon, the constriction being about eight inches from the anus. Dr. G. first saw the patient on Friday morning, suffering from pain in the lower portion of the abdomen. Had taken the day before a large dose of Epsom salts, with no effect. There was no marked pain on pressure, and in order to relieve pain gave an injection of morphine hypodermically; also ordered enema of warm water and a mild cathartic. The next day he injected into the bowels seidlitz powders. Sunday morning gave injections of turpentine emulsion. There was at this time considerable distension of the bowels; the pulse was 112, and temperature 98. On Monday the pulse was 140 and temperature 95, and the bowels quite tympanitic. There was also more or less vomiting during the patient's illness. The post-mortem examination revealed extensive peritonitis, and the constriction as already exhibited. Dr. G. said that should he have a case with similar symptoms, he should advocate cutting down and relieving the constriction.

Dr. Steward said that he had frequently had cases with similar symptoms. He immediately put them in hot baths, and injected large quantities of hot water, with patient on the hands and knees, and never failed to relieve.

Dr. Gilbert stated that his patient had had attacks of this kind before, which had been relieved with a dose of Epsom salts; and would also state in this connection that constipation was habitual with the patient.

Dr. Stewart stated that all his cases were habitually constipated.

Dr. Connor said that there was great variation in the distention of the descending colon, and we might account for constriction of the bowel by portions of it passing beneath the colon.

Dr. Yemans presented a heart taken from a lady thirty-eight years of age who died from uræmia; had general anasarca for two weeks previous to death, which was relieved by elaterium; could not distiuguish any abnormal heart sounds; the present condition of the heart was stenosis of mitral valve, with extensive calcareous deposit; the right auricle was dilated to about four times its normal size; there was pus in the right kidney, with not much destruction of its tissue.

Dr. Bradley, who was present at the post-mortem, said he was surprised that the patient had lived so long. There was also fatty degeneration of the ventricles and of the liver.

Dr. Brown read an interesting paper upon apoplexy, relating a case which he regarded as past all hopes of recovery, but for some unaccountable reason did recover.—*Review of Med. & Phar.* H. O. WALKER, *Sec'y.*

Microscopy.

THE MICROSCOPE AND ITS MISINTERPRETATIONS.

Read Before the San Francisco Microscopical Society.

By J. EDWARDS SMITH, of Ashtabula, Ohio.

In the June number of *Popular Science Monthly* appeared an article under the above caption, by John Michels, Esq. Mr. Michels seems to have but little faith in the capacity of the microscope as an instrument of scientific inquiry, or research in proof thereof. He refers prominently to the differences of opinion existing among microscopists as to the character of the markings of the podura scale.

Mr. Michels presents the London controversy. He might have added that American observers never had faith in the beaded appearance of the pedura scale, as seen by D. Piggott. It was indeed easy to show podura into "beads" by placing the object glass slightly out of adjustment, and "cooking the illumination" to suit; but with the object glass in proper adjustment (*i. e.* so that similar appearances prevail when the object is a little within and without the true focus,) then will the podura scale exhibit the spines, as (approximately) shown at Fig. 2, page 178.

One of the last issues of the *Lens*, a quarterly journal of microscopy published at Chicago, contained an article from an American gentleman which would seem to settle the question. This gentleman, by passing electric sparks through mounted slides of podura, succeeded in detaching one (or more) of the spines. A beautiful photograph accompanying the article exhibits a large fragment of the scale, showing the spines perfectly distinct, and near by lay a solitary spine (1) detached or dissected out by the agency of the electric spark.

Here we have positive proof that the appearance of the spines is not due to markings on different planes, as shown in Mr. Michel's fig. 3, page 179.

In the Summer of 1874 I received from Mr. Tolles a 1-6th and 1-10th immersions. The glasses were constructed on his new four-system formula. In the examination of these objectives all the known tests were resorted to with these superb glasses. I have spent much time over podura scales, and under every aspect obtainable lamp light, diffused day-light, and monochromatic sunlight—have been resorted to, both with central, centrally disposed and very oblique illumination—and with amplification ranging from 300 to 7000 or 8000 diameters; invariably the spines are seen clearly, distinctly, and with a force sufficient to dispel a doubt, nor was there even a semblance of beading visible.

Referring to the drawings offered by Mr. Michels to "illustrate the difficulty of obtaining true and reliable images of objects viewed by high powers," I beg to say that Mr. Westropp must have employed exceedingly poor objectives. Any of the first-class American or London immersion objectives will present images under every variety of illumination and amplification, almost entirely free from distortion. In this respect Mr. Tolle's new 4-system glasses are unequalled; even with illuminating beam of 60° from axis no sensible distortion is exhibited. Hence I am inclined to the opinion that some misunderstanding prevails as to the drawings of Mr. Westropp, especially as the forms he presents are almost identical with different scales on the same podura mount.

As to the value of microscopical examination of apparent blood stains, the reader is referred to the article of Prof. Joseph G. Richardson,* demonstrating the capacity of the microscope to distinguish human blood from that of ox, pig or sheep.

Dr. Richardson's observations were shortly after confirmed by my own.† Of nine (to me) unknown blood stains submitted for examination, the two due to human blood were detected.

Microscopic examinations of presumed blood stains may rest safely on a single-handed evidence, but only in the hands of an expert. Should any doubt of competency exist, the expert should be compelled to demonstate his skill by actual test, to the satisfaction of judge and jury.

A case has recently been reported where a novice swore positively to blood of an ox; but it was conclusively proven that the said stain was human blood, taken from the finger of defendant's counsel.

Ludicrous as the above may appear, it teaches valuable lessons. In it the expert recognizes conditions which causes the failure of the novice—conditions which could not have obtained had the data been reversed, i. e., the stain known to be ox blood, and pronounced by the novice to be human blood.

The general reader is informed that in every case of microscopic examination of blood stains, where human life is at stake, should doubt arise, their effect will be (when intelligently considered) to clear the accused.

While on the one hand Mr. Michels endeavors to underrate the capacity of the microscope, on the other he presents unsatisfactory proof of the correctness of his position. Even the case of the podura scale, as he presents it, does not help matters. If Mr. Michels had shown that the microscope in intelligent hands had failed to distinguish podura from other insect *scales*, then, and only then, would he have sustained his point. Then, too, the inference might analogically have place that the human blood disk could not be detected from the disks of other animals.

AN IMPROVED METHOD OF APPLYING THE MICRO-SPECTROSCOPIC TEST FOR BLOOD-STAINS.

Dr. Richardson, of Pennsylvania, who has paid so much attention to the size and characters of the blood-corpuscles, both red and white, has recently read a short paper before the biological and microscopical section of the Academy of Natural Sciences, in which he suggests an improved method of applying the micro-spectroscopic test for blood-stains. He points out the difficulties that are experienced in the ordinary mode of its application, and then proceeds to give the following directions: Procure a glass slide with a circular excavation in the middle, and moisten the edges of the cavity with a small drop of diluted glycerine. Thoroughly clean a thin glass cover, about one-eighth of an inch larger than the excavation, lay it on white paper, and upon it place the tiniest visible fragment of a freshly dried blood-clot, which need not weigh more than the 25,000th of a grain. Then with a cataract needle deposit on the centre of the cover near the blood spot a speck of glycerine not larger than a full stop (.), and with a dry needle gently push the blood to the brink of the microscopic pond, so that it may be just moistened by the glycerine. Finally, insert the slide upon the thin glass cover in such a manner that the glycerine edges of the cavity in the former may adhere to the margins of the latter, and turning the slide face upwards, transfer it to the stage of the miscroscope.

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* London *Monthly Microscopical Journal*, September, 1874.

† Cincinnati *Medical News*, April, 1875.

By this method an extremely minute quantity of a strong solution of hæmoglobin is obtained, the point of greatest density of which is readily found under a one-fourth objective, and tested by the adjustment of the spectroscopic eye-piece. Dr. Richardson states that in one case, five months after a murder had been committed, he was able to obtain well-marked absorption-bands, easily discriminated from those produced by a solution of alkanet root with alum and those caused by an infusion of cochineal with the same salt, from a scrap of stained muslin one-fiftieth of an inch square. After examining the spectrum, the white corpuscles and the remains of the red corpuscles may be discovered by the use of high powers, and it is possible, he thinks, in this way, by measurements carefully made, to discriminate between the corpuscles of human blood and those of the ox, pig, horse, and sheep. Lastly, to make assurance triply sure, he proceeds to wipe off the tiny drop of blood-solution from the glass with a thin piece of moistened blotting-paper, and allow to fall upon it a little fresh tincture of guaiaeum and then a drop of ozonised ether, which will at once evoke the deep blue color of the guaiacum test for blood.

PROF. HASERT'S NEW OBJECTIVE.—In the December number of the MEDICAL NEWS we printed in full from the M. M. J. an article by Mr. W. J. Hickie, giving an account of an objective made by Prof. Hasert, of Eisenach, Germany, that would work through any thickness of glass cover *without screw-collar adjustment.* In this article Mr. H. says he resolved, with comparative ease, *s. gemma*, *p. macrum*, *f. saxonica*, *n. crassinervis* and *stramomis spicula.* He found, however, that it worked badly with deep eyepieces. "On *p. angulatum*, with E eyepiece, the resolution was only *moderately* good, and there was a certain amount of unmistakable fuzziness, which was not pleasant. On *s. gemma* with E and F eyepieces, the result was simply nil."

In the January number of the M. M. J. there are three articles from different gentlemen, casting discredit upon Mr. Hickie's account of this glass. In one of them a Mr. Gordon writes: "I have just heard from an *authority* who saw the *celebrated* Hasert's objective, in London, that its performance is *nothing* like what it is reported to be. . . . .

"Some time since Mr. Hickie caused a similarly startling sensation with Beneche's *improved* No. 7 objective, and the *straight candle light.* I have seen *three* of these *improved* objectives, and compared them with similar powers by Beck, Hartnack, Powell and Lealand, and Ross—the result being always that Beneche's objectives were found *moderately bad.*'

A Mr. Branwell, in speaking of Mr. Hickie's article, says: "But if there is one thoroughly accepted idea connected with lenses, it is that deep eyepiecing is, above all, the surest test of their correctness. So that we have here a contradiction. Mr. Hickie explains by saying that he 'came to the conclusion that there is ample room for improvement in our eyepieces.' No doubt; but whatever their demerits, they are as fair a test for one lens as for another of like power; and the fact remains that this Hasert objective, though it defines with extraordinary precision, bears deep eyepieces much worse than the general run of glasses."

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NEW FORMULA OBJECTIVES OF SEIBERT.—Several months ago we noticed in the MEDICAL NEWS an objective, No. 5 ($\frac{1}{8}$th) immersion made by Seibert, of Seibert & Krafft, of Germany. We spoke of it as a fine glass, comparing very favorably with the work of the best English makes. Quite recently we have received from the same firm two other objectives, a No. V and a No. VI immersions, made on a new formula, either one of which is very superior to the No. V we before described. We have subjected them to the severest tests, and have always found their performance admirable. We do not like to make invidious comparisons, but we will state that in comparing them with a recent 1-10th by R. and J. Beck, we invariably found their resolving power quite superior, and so markedly so as to preclude any doubt.

Hartnack has heretofore been regarded as the best maker of objectives upon the Continent, but we feel confident that, unless he greatly improves his work, Seibert will soon be regarded as the most eminent of continental makers of lenses.

Seibert's glasses are not much more than one-third the price of the best English glasses, and we think it will not be long before there will be a great demand for them in this country. But miscroscopists should do their own importing. When articles are ordered through dealers, several hundred per cent. becomes added to the cost. With the facilities of importing at the present time, it is as easy to order any article from a European manufacturer by enclosing with the order a draft, as it is to send from Cincinnati to New York for anything desired.—*Ed.*

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SAN FRANCISCO MICROSCOPICAL SOCIETY.

One of the San Francisco Microscopical Society's very interesting meetings was held on Thursday evening Jan. 20, with a room full of members, in addition to which Mr. G. Phillips, of Boston, was present, as a visitor.

Mr. C. G. Ewing donated a slide mounted with sections of the common reed, while a tray from the object cabinet, containing thirty-three slides purchased from E. Wheeler, of London, and mounted with as many varieties of acari and parasites, was handed about and examined.

Captain Jno. H. Mortimer, corresponding member, did not allow the ship Hamilton Fish to carry all the good things in his collection away with him, and Mr. Kinne took pleasure in announcing, as a donation from the gentleman, thirteen bottles of boilings of diatoms and foraminifera, and twenty-five varieties of diatomaceous earths, from as many different localities.

To the library there were added two numbers of *Nature* and the January number of the *American Naturalist* by subscription, while some of the funds of the society had been judiciously expended in the purchase of two volumes (text and plates) of "Fresh Water Algæ," Hassall; one volume and atlas of "Histoire Naturelle des Vegetaux Parasites," Robin; and part first of "Mycographia, seu Icones Fungoram," Cooke.

Mr. Hanks exhibited a most beautiful specimen of crystallized gold from a mine in Oregon, and also placed on the stage two slides for the purpose of demonstrating the value of

A NEW METHOD OF EXAMINING ROCK STRUCTURES.

His mode of preparing them is to grind the mineral in a mortar, and, after sifting through a fine sieve, then mount in balsam a part of the material, while the remainder is treated with nitro-hydrochloric acid, and a sample of the residue mounted on another slide in the same manner as the first. Hornblende and mica, which are so troublesome to define under many of the old methods of microscopic examination, offer no difficulties under Mr. Hanks' treatment, and with portions mounted opaque, in section, and treated with liquor potassæ in addition to the two above, one has a series of five slides which, with a binocular and polarizing apparatus, would seem to enable the mineralogist to look into rocks as readily as the histologist does into tissues of a more fragile character.

Dr. Burgess exhibited one of Flint's microscopic-section knives, which looked like a very handy and useful instrument, much more easily manipulated than the more cumbersome razor.

Dr. Harkness exhibited a very beautiful dye which he had obtained from a species of lichen gathered by him near Saucelito. On macerating the lichen in liquor potassæ the result was a large quantity of fluid stained with a rich magenta color. This vegetable without question could be utilized and rendered of great commercial value.

ONE OF THE FEATURES OF THE EVENING

Was the exhibition by Mr. Ashburner of a slide, finely mounted with a specimen of the round-leaved Sundew (*Drosera rotundi folia*), by Mr. N. N. Mason, of Providence, R. I. The cell structure, stomata, tentacles and surmounting glands of this truly wonderful plant were clearly shown, and the object naturally brought up the subject of insectivorous plants, more particularly from the fact that Darwin's work on this subject had been received a few weeks since by the society.

The whole matter was so interesting and instructive withal that many comments were made on the subject and explanations entered into by some of the members relative to where it could be found and the mode of its procuring food. The *Drosera* was stated to be a rather common plant in the northern temperate zone, and is indigenous to California, having been found in Marin and other counties. Unlike the *Darlingtonia Californica*, the flies and other insects are caught by means of the tenacious seeming dew-drops which stud the upper face and margin of the plant. In their struggles to escape, pressure and its incident excitement is exerted upon the glands surrounding the tentacles, which latter, in a few seconds, begin to incline toward the fly, and the fact of a feast in prospect is telegraphed to the more remote tentacles; and, if the fly is lodged in a central position and the leaf in an active condition, in a few hours all of the glands, which average nearly two hundred in number, may be seen touching the body of the insect. The point of movement is in the lower part of the tentacle, and is effected by contraction on the side toward which the bending takes place, and thus is seen to accord with muscular action in being pulled rather than pushed over. Action similar to that of the animal stomach begins to take place, and does not cease till the digestive work is over and the tentacle straightens, for it is found that there are secretions poured out which are adapted to the purpose of softening and digesting the animal food which it loves.

THE MICROSCOPE HAS BEEN OF MATERIAL AID

In unraveling the mysteries of this and the kindred carnivorous plant, *Dionœa*, particularly in the movement noted in the contents of the cells, of which the tentacles of the *Drosera* are built up. These cells are sufficiently transparent to be observed under the microscrope without treatment and while living. The protoplasmic elements, under a high power, are seen to change, when the gland is acted upon, to a greater or less degree, till often the whole aggregates itself into one or two masses, which change in form and position somewhat similar to amœba or the white corpuscles of the blood, preventing, as Mr. Darwin remarks, "a wonderful scene of vital activity."

Much more was called out by the examination of this single slide, on Thursday evening, and which served to incite some new interest in a plant which is but one of a group bringing nearer the animal and vegetable kingdoms, till we can almost "clasp hands across the chasm" and call trees brothers, and flowers sisters, uniting all in a common bond of fraternity.

"PUCCINIA GRAMINIS."

Among the many interesting objects, Dr. Harkness exhibited a specimen of wheat rust found on a choice sample of grain sent to the Academy of Sciences by Prof. Geo. Davidson, who gathered the same in the Valley of the Nile during the month of May last. The Doctor stated that this proved to be the uredo fruit of the *Puccinia Graminis.* This fungus had attacked not only the stalks, but also the leaves and glumes of the plant. The doctor remarked that the fungus had evidently been developed upon the wheat during its transportation.

As a proof the samples bear evidence of having been carefully selected as the most perfect of their kind, and as the unsightly spots are visible to the unaided eye, they would, if existing, have led to their rejection.

As further proof, the doctor stated that during a prolonged residence in Egypt, some years since, he had examined many fields of wheat, during every stage of its growth, and had never noticed a single instance of the rust; the climate being altogether too dry to admit of its growth. He further stated that Fungologists universally refer the Puccinia Graminis to America as its proper habitat. Hence his conclusion was drawn, as above stated, that the spores, being already in existence upon the grain when gathered, were, *in transitu*, developed through the influence of moisture imbibed. This may be accepted as another fact in evidence to prove the universality of spore distribution.

As the next is the annual meeting for election of officers, reports, etc., a committee was appointed to make nominations. It is hoped there will be a full attendance.

THE AMERICAN MICROSCOPICAL SOCIETY OF THE CITY OF NEW YORK.—At the annual meeting of this society held Tuesday evening, January 25th, 1876, the following officers were elected for the ensuing year: President, John B. Rich, M. D., 35 East 10th street, N. Y.; Vice-President, Wm. H. Atkinson, M. D., 41 East 9th street, N. Y.; Secretary, C. F. Cox, 13 William street, N. Y.; Treasurer, T. d'Oremieulx, 7 Winthrop Place, N. Y.; Curator, O. G. Mason, Bellevue Hospital, N. Y.

Clinics Cincinnati College of Medicine and Surgery

CLINICAL LECTURE ON DISEASES OF WOMEN.

By A. J. Miles, M. D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine and Surgery.

Reported by T. M. Wittkamp, A. M., M. D., Dispensary Physician.

DISORDERED MICTURITION IN WOMEN.

Gentlemen of the Class.—The patient I have to present for your consideration at the clinic to-day has been troubled more or less of the time for the past six years, with frequent and painful micturition. The dispensary physician will now read the history of the case:

" Mrs B., living at No. — Moore street, age 50 years, widow, is the mother of thirteen children, and twice has had twins. Her last confinement was nine years ago, and at that time she gave birth to twins; her confinements were all natural labor. For the past six years has had more or less constant pain in her back and lower part of the abdomen, with frequent and painful micturition, often having to urinate every half hour with dribbling of the urine after the act. Menstruated regularly until last April, when there was a cessation until September, and none since. Present condition: woman small stature, fairly nourished, appetite very poor, bowels costive, tongue red and dry, great tenesmus at stool, and, to use her own expression, 'she thinks her whole insides are coming out;' passes her urine on an average every twenty or thirty minutes during the day, and as often as every two hours during the night; if she is much on her feet or does washing or hard work, the frequency of urination is increased; there is much pain in the urethra before the act, especially if she tries to retain the urine after the desire to pass it is on her, and scalding during and after the act, which is followed by dribbling for a few moments; has the sensation of a swelling or enlargement in the region of the neck of the bladder. At times has dimness of vision and vertigo; occasionally flashes of fever, and the face and whole body covered with erythema, which disappears in a day or two.

" Vaginal examination revealed the vaginal walls prolapsed, and lying in folds protruding against the ostium vaginæ; the vaginal canal is dilated and the bladder prolapsed within it; a male catheter with the concavity posteriorly passed readily in the bladder, the end coming in contact with the finger in the lower part of the vagina. Slight ulceration of os uteri with endocervicitis. Vulva covered with exanthematous eruption."

Gentlemen—Disordered micturition is a frequent complaint in women, and arises from a very great variety of causes.

In the case before you the patient for about six years has had some dysuria, and for the past year very frequent and painful micturition, with dribbling of urine after urination. Now let us inquire into the causes and pathological lesions that may produce this condition and other deranged mictural states.

Dysuria may result from diseases of the urethra and bladder, from the surrounding organs and tissues, or from abnormal condition of the urine. Frequent and painful micturition may result from cystitis or cancerous disease of the organ, gonorrheal inflammation of the urethra, or vascular tumor or polypus of the meatus. The patient has been carefully examined, and we do not find any of those local lesions to exist; besides, when we come to trace the clinical history of those causes we find them absent. In cystitis there would be discharge of muco-purulent matter, which is absent in this case; and in cancer the same discharge, accompanied with blood, besides the local and constitutional symptoms, which are also absent. She has had no gonorrheal disease, and does not now have urethritis, therefore the dysuria cannot be attributed to that cause. By inspection no vascular tumor or polypus can be found in the urethra or meatus, hence they must be excluded as the cause.

Difficult micturition may come from paralysis of the walls of the bladder, but in cases of this kind the bladder would become enormously distended unless the paralysis should extend to the sphincter, when there would be constant dribbling of the urine, which is not the history of the case before you. Eversion of the mucous membrane of the urethra, and in some rare instances inversion of the bladder itself, will cause difficulty and pain in micturition, but we do not find those conditions in our patient. Frequent and painful micturition may result from morbid conditions of the urine itself, as undue alkalinity or acidity, the presence of gravel or blood; but the urine of our patient has been examined and found to be normal in specific gravity and reaction; and no abnormal appearances under the microscope. In cases of calculus the pain is not before or during micturition, but is usually just after the act. Our patient is relieved after micturition, and no calculus can be detected by the sound. Organic stricture of the urethra may occasion difficult micturition with small stream; our patient has no contraction of the canal, and passes a full stream. Cysts or other tumors of the vagina, if growing near the urethra or neck of the bladder, may produce difficult micturition. There are no abnormal growths in the case before you.

When there is an inflammatory condition of the ostium vaginæ, the passage of urine over the inflamed surface is productive of painful micturition; this part may be inflamed as the result of menstruation, but we do not find this condition in the patient under consideration.

Frequent and involuntary micturition may result from fistula in the vesico-vaginal septum; in such cases the patient has very little control over the evacuation of the bladder, for the urine escapes from the unnatural opening as fast as it is secreted. This fistula generally results from the act of parturition, but may be produced by syphilitic or cancerous ulceration. In the case before you the dysuria did not commence until four or five years after confinement, and there has been no ulceration of the septum; the urine is passed at different intervals, which is to some extent under the control of the will, and there can be no fistula detected by vaginal examination. Involuntary micturition may result from cicatrization of the vaginal canal after parturition, and also may follow parturition where there has been undue pressure on the muscular structure of the urethra; but the urinary trouble in this case did not occur until several years after parturition.

Dysuria may be caused by a tumor in the pelvis, or enlargement of the uterus from pregnancy, fibrous or other tumors; abscess in the cellular tissue between the bladder and uterus, periuterine cellulitis or hematocele, which, by causing pressure against the bladder or its outlet, may produce irritation of the sphincter of the bladder through reflex action. There is no tumor, abnormal growth or enlargement to be detected within the pelvis or abdomen of our patient, therefore we must search further for the causes of this distress in the case.

Great hypertrophy of the nymphs by interfering with the action of the sphincter of the bladder may result in incontinence of urine; the nymphs in this case are normal. Defective power over the sphincter of the bladder is sometimes congenital, and may be due to imperfect formation of the urethral canal, associated with epispadius; not so in this case, as there was no troublesome micturition until the woman was over fifty years of age.

Any of the displacements of the uterus may cause frequent and painful micturition by producing dislocation or irritation of the bladder. In anteflexion or anteversion there may be direct pressure from the fundus of the uterus against the fundus of the bladder, producing great irritation and frequent micturition; or when there is retroversion with prolapsus, the cervix uteri may press directly against the neck of the bladder, producing obstruction, painful and frequent micturition. We do not find these conditions of displacement in this case. Irritation propagated from hemorrhoids or diseased kidneys may occasion frequent micturition: there is no trouble of this character in this patient. Frequent micturition often accompanies dysmenorrhea: this patient has past the menstrual climax.

A small quantity of urine may escape from the bladder from time to time, when the organ is distended from retention, or there may none escape for several hours, which would lead us to inquire whether the case was one of retention or suppression of the urine. Retention is, as a rule, accompanied by a desire to evacuate the bladder, but this desire is for the most part absent in cases of suppression. In cases where the patient is unable to pass any urine, it would be evidence of an impediment to the escape of urine from the bladder, of non-secretion from the kidneys. In retention of urine the bladder would become enormously distended, which is not the case in this patient. Suppression usually occurs in connection with the presence of diseases producing great prostration: our patient is able to be on her feet most all day, and passes urine very frequently. Retention may arise from spasmodic contraction of the sphincter of the bladder, and in some cases associated with an erectile condition of the clitoris occurring in hysterical patients. Such cases are paroxysmal in character, being present only during the hysterical condition. Our patient has no hysterical disturbance, and the dysuria is continuous.

Frequent micturition is in many cases an early sign of pregnancy, as well as frequent during the latter end of pregnancy; but pregnancy is absent and out of the question in this patient. Dysuria may result from deranged condition of the nerves supplying the sphincter of the bladder, which may elude our observaton. Any diseased condition of the vagina, uterus, bladder, or adjacent organs may give rise to frequent and painful micturition.

After having thoroughly examined these parts we have found one abnormal condition which we think produces the dysuria in this patient, and that is, prolapsus of the vagina, with prolapsus of the fundus of the bladder, constituting a cystocele. On digital examination we find both anterior and posterior walls of the vagina prolapsed, and presenting in folds in the lower part of its canal, with prolapsus of the uterus. The bladder is so greatly prolapsed that pushing the folds of the vagina in front of it to within the labia gives the sensation to the finger of a soft, loose fluctuating tumor.

The vagina is a musculo-membranous tube, forming an enormously dilatable channel of communication between the external genitals and the uterus. According to Savage the course of the muscular fibers in the vagina is circular, spinal, and longitudinal. The posterior fold of the broad ligament derives a part of its muscular platysma from the upper and back part of the vagina, where the surfaces pass off on each side, converging and ascending to meet the lower platysma fibers from the posterior surface of the uterus, also going into the broad ligament. Some of the lateral vaginal fibers pass on into the utero-sacral ligaments. Externally the vagina and uterus appear continuous, no surface indication defining the limits of attachments. The bladder reclines on the upper side of the vagina, to which it is connected by yelding cellular tissue as far as the vaginal attachments to the uterus—that is, nearly to the junction of the uterine body and neck. Under ordinary circumstances these relations are efficiently maintained by the lateral connections of the bladder with the utero vaginal cellular processes, which are continuous with the cellular layer in the vesico-vaginal septum. The urethra is about an inch and a quarter long, which is half the length of the urethro-vesco-vaginal septum. The anterior three-fourths of the urethra is inseparable from the vagina, but the cellular connections of the remainder, with the vagina, are more intimate than those between the latter and the base of the bladder. The coats of the urethra consist of an inner longitudinal thin, and an outer thick, circular layer. The latter, composed of inner circular and outer spiral fibers, completely surrounds the canal for more than the upper half of its length; below they are incomplete, and pass into the upper wall of the vagina. The lower three fourths, or vaginal portion, is nearly half an inch thick, the upper fourth about a quarter of an inch. The circular and spinal fibers are composed of organic and voluntary fibers, which make up for the upper half of the urethra a powerful compound sphincter muscle. The urethral or external sphincter is, as already indicated, continuous with the inner or vesical sphincter, both acting in unison, the former resisting the hydrostatic pressure, the latter controlling the flow of urine.

From this brief anatomical description it is readily seen how intimate the connections between the uterus and vagina, and vagina and bladder, which fully explains why any material prolapsus of the uterus vagina will necessarily result in prolapsus of the bladder. Also, when the bladder is very considerably prolapsed, there must be more or less stretching of the sphincter muscles of the organ. The sphincter muscles of the urethra pass off some to be inserted into the base of the bladder and others into the upper wall of the vagina. When the vagina is prolapsed, dragging with it the bladder, these muscles are put upon the stretch, which, when long continued, must necessarily become relaxed, thereby resulting in dilatation of the urethra; the constant traction on them produces hyperesthesia of the nerves of sphincter, which creates the frequent desire to urinate, and causes the scalding, burning, painful character of the act. The dribbling is the result of the inability of the sphincter to close properly. This condition continued long would result finally in paralysis of the sphincter muscels, dilatation of the urethra, and incontinence of urine.

No doubt another element in the production of the frequent and painful micturition is from the bladder being so prolapsed that it cannot be completely emptied, and the urine remaining in the prolapsed pouch undergoes decomposition, which is so irritating in character that vesical catarrh or cystitis is produced, causing pain, heat, vesical tenesmus and scalding in micturition.

Our patient tells me she has had a few attacks of very great urinary distress, when the urine would be very offensive and ammoniacal in character, and at such times would produce excoriations of the vulva; this of course was due to urinary retention and decomposition.

Gentlemen—It now remains for us to inquire into the nature of cystocele which is the cause of the dysuria in the patient before you. Cystocele, or vesico-vaginal hernia, consists in descent of the anterior vaginal wall with the bladder, forming a tumor that as it increases projects into the vulva. The sac or pouch thus formed fills with urine which cannot be emptied by ordinary micturition. The retained urine undergoes decomposition, which produces cystitis, marked by pain, heat, and scalding in micturition. Cystocele is easily recognized by a curved catheter in the bladder and the finger in the vagina approximating each other in the pouch, or by pressing up and back the tumor which will be emptied through the urethra. Cystocele may be caused by repeated parturition, rupture of the perineum, long continued vaginitis, distention of the vagina by pessaries, violent efforts or exertion, and senile atrophy of the vaginal walls. After the menopause there is more or less absorption of the surrounding adipose tissue of these parts and senile atrophy. The loss of the former stimulus and tone results in loss of power, and after months or years of relaxation or morbid action the resistance of the vagina is gradually overcome and prolapsus ensues. In our patient no doubt the cause was from the repeated parturition, and especially the twin births so late in life, in conjunction with almost daily exercise and exertion on her feet at the wash-tub.

The *treatment* of this affection depends upon the causes, extent of the prolapsus, age, and general condition of the patient. In the case before you the dispensary physician has for the past few weeks made applications of nitrate of silver to the inflamed os and cervix, has directed astringent vaginal injections daily, with much benefit to the patient, the uterine disease disappearing and the prolapsus much less, with considerable relief to the dysuria, diminishing both frequency and pain. Although there has been much improvement, yet we will find it necessary to replace the vagina and uterus, and keep them in the normal position. This may be done by means of a Hodge pessary, but much more effectually with a Graily Hewitt anti-flexion pessary, which by having the anterior arms of the pessary closer together and bent upwards so as to press directly against the fundus of the bladder, replacing and supporting this viscus also. In a younger and more vigorous woman we might hope to cure the cystocele by means of this kind of support conjoined with astringent washes, but in this patient, who has passed the menstrual climax, with a greatly dilated vagina, deprived of the cushening of adipose tissue, and former stimulus of the parts, we may fail. If so we can then resort to a stem pessary; a Cutter's may succeed, but if this fail we shall have to resort to surgical measures.

An eliptical piece of the mucous membrane of the anterior wall of the vagina may be dissected off and the edges brought together so as to contract the canal. This operation of elytrorrhaphy, I fear, we will finally have to perform on this patient before we can effect a permanent cure.

Book Notices.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. LEWIS SMITH, M. D., Physician to the New York Infants' Hospital, etc. Third edition, enlarged and thoroughly revised. With illustrations. 8vo., pp. 724. Philadelphia: HENRY C. LEA. Cincinnati: R. CLARKE & Co., 1876.

It is no doubt a matter of pleasure to the author that his work has reached a third edition. It shows a high appreciation by the profession, and this fact is certainly calculated to beget in one no little satisfaction.

The present edition is enlarged. A number of diseases, which were omitted from the former editions, are treated in this; and, in other respects, such improvements have been made as were necessary to bring it up to our present knowledge.

The author, as he states, has endeavored to make the treatise practical, and, therefore, has recommended only such modes of treatment as are based on a sound and established pathology, and have been sufficiently tested by experience. Being connected with several of the large institutions of New York in which children are treated, he is enabled to state his views with greater precision and positiveness than would be possible without such a field for observation.

We can cordially recommend the work to practitioners and medical students as one of the very best with which we are acquainted.

THE BODY AND ITS AILMENTS: A Handbook of Familiar Directions for care and Medical aid in the more usual complaints and injuries of Adults and Children. To which is added a Family Health Record. Edited from the Works of Drs. SMITH, TURNER, and others, with an Introduction. By GEORGE H. NAPHEYS, A. M., M. D. Philadelphia: H. C. WATTS & Co.

The very long title of this work gives a very good description of its purpose, namely, to condense, in brief yet simple language, those remedial measures, those resources in emergencies which all should know, as well as the knowledge of the human body, which makes this information clear and available.

We have before expressed the opinion that instructing the masses, at least in the elementary principles of medicine, would redound to the benefit of the medical profession. Ignorance fosters quackery, while knowledge encourages merit. The quack thrives because the uneducated masses are not able to discriminate between him and the scientific physician. In whatever an individual is untutored he cannot be expected to judge between the real and the fictitious.

We regard Dr. Napheys' work as very well calculated to fulfil the purposes for which it is designed, and hope it may meet with the success we believe it merits.

A SERIES OF AMERICAN CLINICAL LECTURES. Edited by E. C. SEGUIN, M. D.

We have received Nos. 11 and 12 of this series, published by G. P. Putnam's Sons, New York. No. 11 is "On the Diagnosis of Diseases accompanied with real or apparent Paraplegia without marked Muscular Degeneration," by H. C. Wood, Jr., M. D. No. 12 is "On the Nature of the Gouty Vice," by W. H. Draper, M. D.

The twelfth number closes the first volume of this very excellent series of lectures by distinguished teachers of medicine. It is the intention to continue them during 1876.

A very beautiful portrait of Dr. Austin Flint, Sr. accompanies the 12th number.

Editorial.

COMMENCEMENT EXERCISES OF THE CINCINNATI COLLEGE OF MEDICINE AND SURGERY.—The Commencement Exercises of the Cincinnati College of Medicine and Surgery will take place on Thursday evening, February 17th, at Pike's Opera House, on Fourth street. We do not now know the number of graduates, but it will probably be not far from thirty.

The programme of exercises will include a report by the Dean, remarks by the president of the Board of Trustees, the Rev. Dr. F. S. Hoyt, editor of the Western Christian Advocate, conferring of the degrees by the same, valedictory address by Prof, C. R. Stuntz, an address to the graduates and to the audience by the Rev. Dr. Payne, of St. Paul's M. E. Church. Music will be furnished by the well known Cincinnati Orchestra, led by the eminent artist Michael Brand.

We have no doubt there will be a large attendance of the friends of the school, not only of those residing in the city, but of many from abroad. All who take an interest in medical education are invited to be present.

We think the occasion of the Commencement would afford an excellent opportunity for the many alumni of the school to hold a reunion among themselves, and we would suggest it to them. Hundreds who do reside at very great distances from Cincinnati have not seen one another since their college days. Why not meet together at this time and renew old acquaintances and friendships?

TO THE TRUSTEES OF THE CITY HOSPITAL.—In the European Hospitals, as well as in New York and Philadelphia, a separate chair on diseases of the "throat and air-passages" has been created.

In justice to the great progress made in the the treatment of those diseases, a specialist in this department should be selected to give the students an opportunity to perfect their education in that branch of the profession. We therefore call the attention of the trustees to the importance of attaching such a specialist to the staff, the appointment of which would then afford to the students equal clinical facilities with the eastern cities without any additional expense to the city. We trust our suggestion will meet with the approval of the trustees. MEDICUS.

THE PHYSIOLOGICAL ASPECTS OF RELIGIOUS EXCITEMENT.—One of the tasks which an enlightened hygiene sets before us is the subordination of the passions and emotions to the intellect, which is, physiologically speaking, the subjection of the other nerve centres to those of the hemispheres of the brain. Professor Dalton lays it down, in the last edition of his treatise on Physiology, as a well-ascertained fact, that these hemispheres, even in man, are not indispensable to life. Their function is that of conscious intelligence, and through this mental faculty man reaches that superiority to other animals of less developed cerebra which gives him the command of the earth.

Sensation and passion are located, for their physical seats, at the base of the brain. They are possessed by man and brutes as a common heritage; and his endeavor should be to hold them ever under subjection to the self-conscious reason. Just in proportion as he does so does he benefit himself and others, lengthen and enrich his life, purify and clear his ideas. The progress of civilization is marked by a decadence of violent emotions. Revenge, such as that which maintained the hereditary feuds of the middle ages, is now hardly known. Castren tells of the Lapps and Finns, that when one makes a sudden, sharp noise, the whole company may fall into convulsions. Epidemic hysteria, or some such neurosis, swept off whole villages of the North American Indians. Seized by it, they burned their huts in midwinter, wounded and slew each other, and sunk exhausted, to perish of cold.

In the contemplation of the numberless examples of the injuries worked by allowing the emotions to get ahead of the intellect, the inferior nerve functions to overmatch the higher, lies the objection which physicians as a body entertain to religious revivals. It should be maintained by all physicians, as a maxim abundantly confirmed by experience and consonant with sound physiology, that no good can come, in the long run, from emotional storms. The first duty of every reasonable being is to cherish, beyond all else, that faculty of reason, by which alone he is able to distinguish the true from the false, correct from incorrect statements. The "Spirit of Truth" is the bequest which was left to the Christian by Him from whom he receives his name, and no one should teach in a way to darken or diminish this glorious power.

Religion has at all times appealed to the emotions, and should continue to do so. But the wild Bacchic chants and dances, the orgiastic tumults which marked pagan ceremonies, never purified its theories. Neither did the intense fanaticisms which Mohammed knew how to inspire. Not any more do the shouts and yells, the nervous spasms, the floods of tears, and neurotic seizures which we personally have witnessed at camp-meetings and revival services. Such displays are as much against sound hygiene as sound religion.

Some have said that such objects are not proper to discuss in scientific circles. We maintain that they are, and that it is the bounden duty of every medical man, as a member of a body who have in charge the public health, to study up the subject and to express his opinions. A man who is afraid to talk on religious subjects either has no clear views and is superstitious, or else, having them, he is afraid they are not true.

The revival which took place last summer in England has attracted, and properly, the attention of physicians. Its most satisfactory feature is, that it has been attended with less of that "wild-cat religion" which used to be so familiar in the Western States. Just in proportion as this objectionable feature is reduced, will its effect be beneficial. There are several counties in Central New York, now called among circuit preachers the "burnt-out district." It is impossible to get up any religious enthusiasm there. The reason is, that some twenty years ago there occurred in that district one of the most violent emotional revivals on record, and since then all real religious fervor is "played out."

Dr. George H. Savage, assistant medical officer of Bethlehem Hospital, has collected the cases admitted into that institution during the four months of the "Moody and Sankey" services, and compared them with the admissions during the same months of the two previous years. There was an increase in the number of admissions during 1875, and three cases were thought to be traced to the excitement of the late revival; but Dr. S. adds :—

"I cannot say that I see grounds for supposing many cases were rendered insane by the recent revivals. Many persons were no doubt upset for a few hours, rendered very wretched, and for a time determined to lead a different life. The good done is not for me to discuss ; it may have been small or great, temporary or permanent ; in the majority of cases, the storm was of short duration, and did little harm."

Dr. S. thinks that, though religious revivals do small harm to the able-minded, there is danger to those who are weak ; but, of course, as much as this might be said of any cause of mental excitement. He remarks :

"A person of weak mind may change his creed, and finally become a religious lunatic. We have at present two cases of men who have changed from Protestantism to Roman Catholicism just on the eve of an outbreak of insanity. The history of one is interesting, as it is that of many similar cases. A. T., the son of a Church of England clergyman, single, aged twenty-five, whose mother is insane. He was precocious, and had the vices of a man before he was seventeen. He wasted his own money and that of his friends, and was a 'black sheep.' He becomes contrite, or I would say melancholy, becomes a Romanist, and wants to be a priest. He is emaciated with fasting and self-abuse, and restless, constantly repeating some such word as 'immaculate.' He may be considered in an ecstasy by some. We look on him as an acute maniac."—*Med. and Surg. Reporter.*

CAUSE OF THE DEATH OF VICE-PRESIDENT WILSON.—We here present the official account of the post-mortem of the late Vice-President of the United States, as furnished Prof. W. A. Hammond, M. D., of New York, and published by him in a pamphlet we have received commenting on the causes of death.

"Autopsy, Nov. 22, 1875 on the body of Henry Wilson, Vice-President of the United States, about four hours after death.

"There was no rigor mortis and no other external appearance of note except a longitudinal livid patch upon the back of the neck.

"The dura mater was quite firmly adherent to the inner surface of the calvaria adjacent to the longitudinal sinus; all of the sinuses were full of dark fluid blood; the pia mater was congested and presented many small, old, whitish patches of lymph scattered along the surfaces adjoining the longitudinal sinus.

"The brain weighed forty-nine onnces, was normal in consistence, and its color normal except that the puncta vasculosa were less marked than usual, both in number and in vividness; there was a transparent cyst about the size of a pea in the extremity of each choroid plexus; the ventricular fluid was normal in character and quality.

"The subarachnoidal fluid was slightly increased in quantity. The arteries at the base of the brain, more especially the middle cerebrals and basilar, together with their larger ramifications, were notably atheromatous, some of the calcareous plates being three or four lines in long diameter and so thick as nearly to obliterate the vessel.

"No thrombus or embolus was found, nor any extravasation of blood in the substance of the brain, pons Varolii, or medulla.

"The venous plexuses of the spinal canal contained a large quantity of dark fluid blood.

"The spinal cord, which was examined as low down as the third dorsal vertebra, appeared to be normal, except that the demarkation between the gray and the white substance was not well marked. Portions of the brain and spinal cord were set aside for microscopical examination.

"The lungs were congested posteriorly; there were old pleuritic adhesions on the left side, chiefly around the apex; a calcareous deposit the size of a pea was found in the middle lobe of the right lung; the lungs were otherwise normal.

"The heart presented a small calcareous deposit on one of the segments of the aortic valve, but was otherwise normal.

"The pericardial fluid was normal in quantity and color.

"The stomach was much congested, the mucous membrane everywhere of a deep red color and covered with mucous.

"There were many erosions of the mucous membrane, some superficial, others nearly perforating the membrane; some, the smaller ones, were rounded, the larger were irregular in outline; these latter were surrounded by dark areolæ of congestion.

"The liver was of a dark color, congested, and somewhat friable; there was a small aqueous cyst in its upper surface near the broad ligament. The gall-bladder was full of dark bile. The spleen was large and dark, but normal in structure. The kidneys weighed eight ounces each, and were congested; there were a few small subcapsular cysts and cicatrices, apparently of previous cysts.

"The bladder was contracted, its mucous membrane slightly reddened, and contained a small quantity of urine of normal color.

"The intestines appeared healthy. It perhaps ought to be stated that in view of the prospective embalming, only such examination was made as appeared to be absolutely necessary.

"The cause of death was considered to be nervous apoplexy, depending probably on cerebral anæmia."

We have only space to give the summary of the remarks of Prof. Hammond on the causes of death. His whole remarks occupy a pamphlet, octavo size, of 14 pages. The summary is as follows:

"Now the points to which I specially desire to call attention in connection with this report are following:—

"First. The fact that the arteries at the base of the brain, especially the middle cerebral and basilar, together with their larger ramifications, were notably atheromatous, some of the calcareous plates being three or four lines long in diamater, and so thick as nearly to obliterate the vessel. This statement is directly confirmatory of the theory I have advanced that some of the smaller vesels of the medulla oblongata might have been entirely closed by calcareous deposits.

"Second. The fact that no thrombus or embolus was found, nor any extravasation of blood in the substance of the brain, pons Varolii, or medulla. It does not appear, however, that the vertebrals were examined.

"Third. The condition of the stomach is, I think, the strongest point yet advanced in favor ot a lesion of the medulla oblongata. I cannot, therefore, coincide with my friend Dr. Baxter in regarding it as the exciting cause of death, or of the attack of two weeks before.

"Pincus, according to Schiff, has seen congestions, black and irregular spots, and hemorrhages produced in the mucous membrane of the stomach of rabbits by section ot the sub-diaphragmatic branches of the pneumogastric nerves.

"Vulpian, in speaking of the erosions, hemorrhages, and other disorganizations of the gastric mucous membrane produced in animals by lesions of the crura cerebri, corpora striata, and optic thalami, calls attention to the fact that like changes are caused in the stomach of man by cerebral hemorrhages, and says,—

'M. Charcot and I have observed these ecchymotic lesions in the stomach in cases of *ramollissement*, and even in cases of arterial ischæmia when *ramollissement* had not yet been produced. I have found them twenty-four hours after the obliteration of the middle cerebral artery. The patient had lost conciousness, and had died without reviving. At the autopsy, although there was no cerebral softening, numerous ecchymotic spots were found in the stomach.'

"He then adds that even in the lower animals they may be caused by injury of other parts of the brain than the crura, the corpora striata, or the optic thalami, and that Schiff has observed them to follow lessions of the medulla oblongata, and of the spinal cord between the first and second vertebræ..

"As to the hypothesis advanced by Dr. Baxter, while I do not think it tenable under the circumstances, there is no doubt that sudden death may be produced by reflex vaso-motor spasms starting from the stomach. To this category of circumstances belong the cases of sudden death ensuing from the ingestion of cold water into the stomach while the body is undergoing cooling after being greatly overheated. Guerard has adduced several examples of the kind, and the fact is familiar to us all from instances which have occurred within our personal knowledge. Such cases are to be explained upon the theory that the influence is propagated to the medulla oblongata, and acts by producing immediate anæmia of that small mass of gray matter which constitutes the nib of the calamus scriptorius, and the perfect integrity of which is essential to life. The functions of the pneumogastic nerves are at once arrested, and respiration and circulation instantaneously stopped.

"This concludes what I have to say in regard to the very interesting questions suggested by the lamented death of the vice-president, though it is evident that the subject is by no means exhausted."

Dr. H. rejects *in toto* that death was caused by apoplexy.

Bromide Potassium in Hemorrhage, etc. — The employment of bromide of potassium in cases of epistaxis, uterine hemorrhage, and coryza is recommended by Dr. Geneuil in *L'Union Medicale.* He reports the case of a man in whom violent epistaxis had continued for six hours uncontrolled by styptics, when finally a saturated solution containing six grammes of the bromide of potassium was injected into the nose by means of a glass syringe; the hemorrhage was promptly arrested. Another case of a woman afflicted in the same way was speedily relieved by an injection of the same remedy twice. It is recommended that the bromide should also be given internally to prevent a recurrence of the hemorrhage. The power of promptly arresting the epistaxis is not due to the coldness of the solution of the salt, but to the contraction brought about in the blood-vessels, and the consequent diminution of the flow of blood to the head. In cases of epistaxis, if the first injection should fail to accomplish this purpose, three or four injections may be given in succession. For uterine hemorrhages of moderate intensity bromide of potassium given internally, and associated with the *pulvis ferri* in cases of anæmia is recommended. The writer in his own person tested the value of the bromide in coryza. Two injections of a saturated solution given with half an hour's interval brought rapid relief, and six hours later effected a permanent cure. The application is rather painful for a little time, but a sensation of relief soon follows.

According to *L'Union Medicale* for the first time since the creation, a census of India has been taken. It is found that India, with the English provinces and their dependences, contains 256,830,958 souls, a population equal to that of all Europe. Each square mile contains on an average 211 inhabitants. The largest city is Calcutta, which with its suburbs has 895,000 inhabitants. Bombay has 644,000; Madras, 398,000; Lucknow, 285,000. Reckoning according to their religions, there are in round numbers 140,500,000 Hindoos; 40.750,000 Mohammedans; 9,500,000 Buddhists, Jews, and Parsees. The religion of the remainder has not been ascertained. The Christians number 900,000, of whom 250,000 are Europeans and 650,000 natives. Twenty-three different languages are spoken in India. In the Western provinces there are at least three hundred castes; in Bengal about one thousand. In the service of the Government, including the native establishments, there are computed to be 1,236,000; 629,000—of whom

849 are missionaries—are supported by religious establishments. There are 30,000 religious mendicants, 10,000 astrologers, 5 sorcerers, 465 exorcists, 518 poets, 1 orator, 33,000 jurists, 75,000 physicians, 218,000 artists, among whom are reckoned acrobats, serpent charmers, etc. Other statistics are given as to the number of agriculturists, drivers of elephants, camels, etc.; and thieves, highway robbers, vagabonds, etc.

THE URINOLOGY OF GENERAL PARALYSIS.—In the West Riding Lunatic Assylum *Reports*, Dr. Merson has a paper on "The Urinology of General Paralysis," at the end of which he thus sums up the results of his observations:—

1. The quantity of urea varies above and below the average of health, being in the majority of cases considerably increased. Probably also the uric acid is increased.

2. The quantities of chlorides and phosphoric acid are notably diminished; that of sulphuric acid remains about normal.

3. The specific gravity varies within wider limits than in health, but the mean does not differ materially.

4 The absolute quantity of urine passed is slightly below the average of the healthy cases examined, but, estimated according to weight of body, the amount excreted by seventeen general paralytics was slightly in excess of that excreted by six healthy men.

5. Under the influence of Calabar bean, there is a considerable diminution in the quantity of all the solid constituents, especially the urea.

The results obtained in the three cases treated with alchohol are in favor of the view that both the quantity of urine and the amount of solid constituents are diminished under the influence of that substance.

THE BRITISH MEDICAL DEFENCE ASSOCIATION.—Has been in existence for about a year. A meeting was held lately, in London, with Dr. B. W. Richardson in the chair, when the objects of this Association were explained. The main object seems to be to get more power from Parliament, in order to ensure shorter and easier methods of "putting down quackery." Dr. Richardson "understood that the promoters aimed at the suppression of unqualified practice, quack medicines, indecent publications, bogus diplomas, and improper alliances of qualified and unqualified men; that they wished to protect medical men from vexatious prosecutions, and to prevent the registration of 'non-certified' deaths, to correct the abuses of out-patient practice at hospitals, to devise a fair tariff of medical fees, and to give medicine a firmer political basis in the House of Commons."

SCHOOL DISEASES.—The Rhode Island Medical Society, at its late meeting, gave considerable attention to the causes of disease among children in the public schools, and the members were generally agreed that it is due not so much to hard study as to bad ventilation and other causes, one of which is hereditary or acquired predisposition for disease; that normal activity of the brain is helpful to the best health of individuals; and that judicious study in school is by itself a healthy functional exercise. They declared, however, against long hours of study, and finally adopted a resolution declaring "that among the most prominent causes of ill health among pupils while attending school we must recognize the following:—Attending balls and parties, sitting up late at night, eating improper food, drinking tea or coffee, and especially reading works of fiction."

CENTENARIANS IN IRELAND.—The deaths of eleven persons returned as centenarians were registered in Ireland during the last quarter, including two stated to have been aged 105 years, one 108, and one 118.

JOHN D. JACKSON, M. D.—This gentleman, who held a high position in the medical profession in Kentucky, died December 8th last. He was born December 12, 1834, and, as is perceived, was comparatively a young man.

We are in receipt of a biographical sketch of the deceased, prepared by Dr. J. M. Toner, of Washington, D. C., and Dr. L. S. McMurtry, of Danville, Ky. The sketch accords to him the high merit that is due him, and will prove of interest to his many friends.

IN MEMORIAM.—Thomas B. Evans, a student in the Cincinnati Medical College, died of small-pox at his father's residence, at Greencastle, Ind., on the 10th inst. On information of his death the students of the College adopted the following resolutions:

WHEREAS, It has pleased Almighty God in His divine wisdom to remove from our midst Thomas B. Evans, a student in the Cincinnati College of Medicine and Surgery; and,

WHEREAS, We feel that we have lost a beloved and endeared member of our class; therefore be it

Resolved, That we deeply sympathize with the relatives and friends of the deceased in the loss of one so genial and kind, and who, we believe, had his life been spared, would have been a useful and honorable member of the profession he labored so hard to enter; and be it further

Resolved, That a copy of these resolutions be forwarded to the parents of the deceased, a copy be placed in the archives of the College in the name of the class of 1875-6, and that a copy be submitted to the MEDICAL NEWS and the city papers for publication.

W. M. TULLER,
D. J. BALLARD,
C. M. WILSON,
A. W. PEEBLES,
J. G. REED,
PERCIVAL HERMANN,
R. B. WILLIAMSON,
Committee.

GALVANIC BATTERIES.—We desire to call the attention of our readers to the galvanic batteries of Mr. Ernest Zeuschner, of 206 Vine street, Cincinnati. Mr. Z. has been in the business of manufacturing batteries of every description for many years—both those giving the interrupted or faradic current, and the uninterrupted or constant current. His work is of the best description and not easily gotten out of repair.

Mr. Zeuschner has made work for the Cincinnati Hospital and many other public institutions, and we believe that in all instances his work has been satisfactory. Substantially as it is made, we cannot see why it should not be. Certainly we have never seen any that excelled it.

A portable battery that he makes, nickel plated, faradic current, having a single glass cup with zinc and carbon plate, giving a very powerful interrupted current, easily regulated in its intensity, price $21—not nickel plated, $20—is a pattern of neatness and simplicity. We have no doubt but that it will meet the wants of any physician.

His constant batteries range in the number of their cells according as may be ordered—from one to fifty or more. He has those in stock from ten to thirty cells. They are put together in a very neat manner, and any of the modern improvements added as may be desired by the purchaser.

D V Hays

THE CINCINNATI MEDICAL NEWS.

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Original Contributions.

REPORT ON SURGERY.

Read Before the Medical and Clinical Faculty of Maryland.

By Thomas R. Brown, M. D., Professor of Clinical and Operative Surgery in the College of Physicians and Surgeons.

Mr. President and Gentlemen of the Faculty:

Understanding within the past two or three days that there was to be no regular report submitted from the Section on Surgery, I, as one of that section, have taken it upon myself to present this, of a necessity, very imperfect resume or exhibit of only a few of the things which the surgeon-doctor has been doing, or has contributed to the growth of our science, within the past year. Borrowing an idea from the example of our predecessors in office, we do not propose to make anything approaching to a complete review of the merits of all the alleged discoveries made in surgery during the past year, or of the many learned discussions and speculations to which the student of surgery, as well as of internal medicine, must have recourse, and upon the clear solution of which so much of the surgeon's success depends. We will rather confine ourselves to brief notices of only the most important, as they appear to us, selected from the side of practical additions to our art by which the mere mechanical part of operating can be the better performed; as well as from the realm of sound theory, evolved in the free interchange of thought that is always taking place between leading surgical minds at home and abroad.

Some months ago Prof. Erichsen announced, 1st, "That so far as concerns the purely mechanical and manipulative departments, practical surgery has nearly if not quite attained finality; that indeed very little remains to be done to render operative surgery practically perfect." 2d. "That the success of operations bears no relation to the skill with which they are executed." "It not unfrequently happens," says Dr. Erichsen, "that if a surgeon has had a long run of good luck in his operations, he may think that he has at last mastered the secret of operating with success in any given disease. If, however, he goes on for a sufficiently long time, he will find that the Nemesis of numbers will certainly punish him for his presumption, and that the wave of success on which he has for a time been so triumphantly carried will eventually break and land him on the inhospitable shore of average results." 3d. "That the mortality after certain operations is excessive, and especially after the major amputations; that the rate of mortality has not diminished of late years; that it is particularly high in hospitals, and that probably this high rate of mortality is dependent upon determinable and removable causes, and may therefore be reduced, if not entirely abolished." Many of us will be surprised to know that the clinical records taken from many hospitals in this country and England give as the lowest average of mortality (which by the way applies generally to American hospitals) 23 per cent., and the highest 59.5 per cent. This applies to major amputations grouped promiscuously. The showing of combination tables, including primary and secondary amputations, and those for disease, taken from the registers of four large metropolitan hospitals in London, is a mortality rate of 37.8 per cent., or out of 631 amputations the very appalling number of 239 deaths. It is matter of comment that according to nearly all statistics, amputations for disease give much better results than those performed on account of injury, the primary and secondary. In the latter cases amputations are performed soon after the receipt of injury, and shock in this case contributes the most towards swelling the mortality. To the shock of accident is superadded the shock of the operation. As an example taken from the last table may be cited the fact that in primary amputations 48.6 died, in secondary amputations 59.5 were fatal, while in amputations for disease the death-rate was only 27.4. It is somewhat cognate to this fact to mention Sansom's observation, that death by shock from the administration of chloroform to a patient upon whom, in the vigor of health, an operation was made necessary by reason of recent injury, was much more likely to occur than when the anæsthetic was given in connection with an equally grave operation on account of disease. In other words, that the existence of a more or less long standing and exhausting disease, paradoxical as it may seem, prepares a patient for undergoing with a good chance of success that for which, if he were to require the same procedure in the time of strong health by reason of injury, would make the probabilities of failure about balance those of recovery. This singular series of facts is also borne out in noticing that after primary amputations 25 per cent. of all the deaths was due to shock; after secondary amputations only 6 per cent., while after amputations on account of disease not a single death from shock is recorded, leaving the 27.4 above referred to within the catagory of diseases, over the generation and spread of which the modern investigation of contagion promises to accomplish so much of real practical importance. I now particularly refer to pyæmia, which statistical evidence credits with being the cause of death after capital operations in no less than 36 per cent. This calculation is irrespective of the deaths induced by erysipelas, low grades of cellulitis, virulent and rapidly progressive inflammations of vitally important organs, and other kinds of trouble of equally septic origin. The relative percentage of deaths arising from this portentous malady (pyæmia) after the three varieties of amputations—primary, secondary, and on account of disease—is, after an examination of the best tables within my reach, 33 per cent., 44 per cent. and 34.6 respectively. Here we see for the first time an approach to similarity in the relative mortality from a given cause between primary amputations and those performed on account of disease, with a marked discrepancy between the latter and those of secondary amputations. I have no doubt that Mr. Erichsen, when speaking of the high rate of mortality being dependent upon "determinable causes which ought to be reduced if not entirely abolished," had exclusive reference to this condition of complication, which has only come to be recognised and defined in the last twenty-five or thirty years under the generic term of septicæmia, including under the head pyæmia, erysipelas, cellulitis, hospital gangrene, virulent inflammations of lungs, liver and other organs, with a tendency to rapid death, and generally possessing the two properties of being capable of generation *de novo* by the one factor of overcrowding, and in being more or less pronouncedly contagious.

Concerning the latter point of resemblance, to wit, the contagiousness and inherent capacity of spreading, much of interest has been written and is being written. Indeed, taking the abstract question of contagion, it must be conceded as being the engrossing thought and subject of the day, especially in its relation to what is known as the germ theory of disease. Indeed, as the editor of *The Lancet*, of 27th March, 1875, says: "It is not too much to say that the germ theory in its widest sense may be made to include the etiology, pathology, prevention and treatment of a large proportion of all known diseases." It certainly deserves, if any disease does, to be closely considered in its connection with the condition of septicæmia. It is only very recently that the supposed capacity of those microzymes in their relationship to so many diseases has risen to the dignity of a distinct theory or hypothesis. From the apparent resemblance between "zymotic processes and fermentations," it had been, as Bastian says, an easy step to imagine them to be idenical, that both alike were due to "bacteria, tortulæ and allied organisms;" and a step still further, that these low independent organisms were the contagia themselves. We see in this the traces of Pasteur's original experiments looking to the establishment of spontaneous generation, which must be considered at present as very far from being proven. On the other hand there are many dispassionate investigators who, while admitting the presence of these organisms (for in this all agree,) regard them not as the contagia, nor the vehicles of contagia, but simply as a mere expression of disease, belonging to a class of new diseases which they entitle "bacterial degeneration," taking position with a fatty or perhaps amyloid degeneration. As an integral part of the first hypothesis we have the naked presumption that "in the tissues of man are to be found undeveloped and indistinguishable germs of the lowest organisms," at any time, under favorable circumstances, ready to take on its highest capacity for life, and either engender or express the products of disease. We do not propose to make any analysis of this intricate question, as it is understood that quite an exhaustive expose of the subject has been prepared for this body; but, with no disposition to strangle it in its infancy, we are prepared to fully agree with Dr. Burden Sanderson, as quoted in *The Lancet*, in saying "that the observations relating to the part played by bacteria in the production of disease are not yet sufficiently connected to be readily summed up." However much we may profess to a knowledge of the subtle laws of contagion, it must be admitted on all sides that no definite account of the essential character of any contagium has ever been advanced. Keyes, in his experiments, tells us that a single pus-cell taken from a true chancre and inserted under the skin, can occasion a sore like to the one from which it was removed, with all the concomitant constitutional disease, though that same cell, as viewed by the cleverest microscopist, differs in not one particular from a pus-cell produced by the simplest abscess. We take refuge under a peculiar molecular movement, or that still more ambiguous something "natural tendency," but both fall far short of being grasped as an explanation. The elements of disease are endowed with life and vital action, and the study and comprehension of their casual connexion with any and all morbid processes, be they virulent inflammations, specific contagious fevers, or what not, involves a study and comprehension of life itself. Of this I need not speak.

Concerning the second characteristic of the class of septicæmic diseases, that of being generated *de novo* by overcrowding, there seems no occasion for extensive argument. I might quote *in extenso* from the records of maternity, civil and military hospitals, from the reports of Lefort, of Simpson, of Guthrie during the Peninsular war, of Berkley Hill, especially with reference to what he saw take place from overcrowding in those orange conservatories converted by the Duke of Hesse-Darmstadt into temporary hospitals, and many other authorities, but this is unnecessary. Every intelligent physician so clearly recognizes the influence of this agency as to make its enunciation all that is necessary. Besides the great difficulties that reside in the investigation of the disease itself, we fail to get as much assistance as we should from the observations of others, by reason of the confusion of terms and misunderstanding as to what constitutes a case of pyæmia. For instance, what Prescott Hewitt, in his report of cases before the Clinical Society in several instances denominated Pyæmia, I would no more think of so diagnosing than I would in the case of an abscess in my axilla following some form of irritative trouble in my hand. As an example I would cite those cases called pyæmia of, first, the old man, 80 years of age, who died from an exhaustive abscess in the hip supervening upon the removal of a warty growth over the tendo Achilles, and, second, of the big abscess in the popliteal space occurring in the young man after running a splinter in the ball of the foot. Then again comes the confusion from the introduction of new terms, which when viewed etymologically and from the stand point of the inventor's definition are two different things. As, for example, the word hospitalism, introduced by Erichsen, I think led to the inference being drawn by Sir James Paget and others in the course of the debate, that Mr. Erichsen meant to restrict the disease to hospitals, whereas he expressly stated that such was not the case, and that the word was selected only because the conditions favorable to the appearance of the disease most frequently obtained in hospitals. However this may be, it strikes me that the word is superfluous and can be substituted by those words in common use, namely, septicæmia, being understood as including all the genus of blood poisoning; that pyæmia is a particular variety of septicæmia, signifying venous thrombosis giving rise to embolism and to metastatic abscesses, and so on with regard to the familiar pathology of the other varieties mentioned above. It is, I say, because of this contrariety of opinions that so little profit has come from a perusal of the literature on the subject. It is evident that the technicalities of the entire subject need a recasting. Take that protracted debate on the subject of pyæmia before the London Clinical Society, in which there engaged surgeons of clear heads and immense experiences not by any means confined to their peculiar hospitals. One surgeon believed that the disease occurred just as frequently in private as in public practice (Sir James Paget), while Erichsen held to the very opposite of this; and that whereas he states that he does not remember to have seen more than one or two cases of septicæmia or pyæmia in private practice, Dr. Hewitt inaugurates his election to the presidency of the Clinical Society by a narration of no less than twenty-three cases taken entirely from private practice, twenty-one of which were his own. One author lays great stress upon a large cubic space for each patient, while another (Hutchinson) holds that hospital air has very little to do with the causation of pyæmia, and that according to his belief ventilation is of no use at all, and that it is as rational to endeavor to prevent pyæmia by ventilating wards as to ventilate fields in order to prevent the growth of thistles, and that erysipelas was frequently caused by such so-called "hygienic arrangement." And still another (Hawkins) seems to take a sort of pleasure in narrating an occurrence of pyæmia in a patient with a broken leg who had 12,000 cubic feet of air at his command, and that too in a perfectly new ward in St. George's Hospital; while in the adjoining ward, where each patient had only 1200 cubic feet of air, and there was a plenty of broken skulls, jaws and thighs, a man with a fracture was admitted, and got well without the intercurrence of any complication whatever. Numerous instances of these unaccountable differences might be mentioned; but having already gone more extensively into this matter than I intended, for I meant to touch upon some of the salient points simply, I must turn my attention in another direction.

As being closely related to the above propositions, Dr. Joseph Lister has been giving lately some instructive lectures upon what he calls "Recent Improvements in the Details of Antiseptic Surgery." He seems more than usually enthusiastic as to the value of his method, and more urgently than ever presses upon the medical world the necessity of having an antiseptic "in constant active operation" on the inside and outside of the seats of operation. Instead of recommending any diminution in the number of layers of his gauze, which consists of unbleached muslin subjected to a certain process, upon which is spread 1 part of crystallised carbolic acid, 5 parts of common resin and 7 parts of solid paraffin, which latter is used for the purpose of preventing "undue adhesiveness," he occasionally suggests an increase from 8 to as many as 32 layers. Lister, in his more recent practice, dwells upon the mistake he has made in recommending a solution containing one part of acid to one hundred of water, as being of insufficient strength to thoroughly remove any septic elements that may attach to sponges, cloths used for washing and guarding wounded surfaces, etc. He has returned to the original strength of his preparation, of 1 part of acid to 40 of water, which may be considered as his minimum dilution. Except for lubricating instruments to be used in the bladder, uterus, vagina, and other cavities, he has abandoned the carbolic oil entirely, as he deems the watery solution more efficient and more cleanly for a detergent wash. For the purpose of providing his "antiseptic atmosphere," he has very ingeniously so modified Siegle's steam inhaler, using high pressure steam as his motive power, in such a way as to make it self-acting and "self-directing," thereby dispensing with the services of an extra assistant. The philosophy of Lister's antiseptic system is founded on an implied acceptance of Tyndall's theory as expressed in his "Dust and Disease," which is substantially, as you all doubtless know, that the atmosphere under all circumstances holds particles of organic matter, and "that a powerful beam of electric light," according to his own language, "causes the air in which the dust is suspended to appear as a semi-solid rather than as a gas." Whatever may be the soundness of the principle upon which this system is predicated, there can be little doubt of its practical efficiency, provided we accept the laudatory accounts of its admirers; and is believed that were it not for the trouble and labor attendant upon its application, it would be of general use. It is a matter worthy of comment that the system is still in its infancy in this country, and nowhere does it seem to be regarded with favor and as possessing practical utility. I regret my inability to extract more from these instructive lectures of Lister's; but for the sake of those whose attention has not before been invited to this field of study, I would refer them, to his lectures now being published in the *Weekly Lancet*, commencing with the one of March 13th.

Among the many other subjects which have engaged the surgeon's attention during the past year, has been that of urinary calculus. Sir Henry Thompson has delivered a lecture before the Medical Society of Birmingham, entitled "The Future of Operative Surgery for Stone in the Bladder," which opens by saying, "I have come to the conclusion that stone in the bladder is a malady which may be exterminated." From this lecture I shall quote, as it is rich in valuable information. Dr. Thompson thinks that scientific medicine for the future will exercise a cogent influence in modifying the frequency and severity of this and other diseases, and that as the plague and small-pox, also to a certain extent typhoid and other eruptive fevers, have been rendered simply anachronisms, so it is not too much to expect that it will class some day, and that soon he believes, urinary calculus in this same category. After referring to the merits of the different lithotomy operations above and below the pubis, giving his unqualified preference to the lateral sub-pubic incision; after noting the fact that before puberty lithotomy is a notoriously safe operation, causing not more than one death in sixteen, and that in the adult the operation is "always hazardous," by reason of the intricate sympathies which exist between his sexual apparatus and his entire economy, giving rise to urethral fevers and such troubles so uncommon when treating either boys or females, he announces that lithotrity, of which in its not entire restriction to the adult he is speaking, "has arrived at perfection when we have reduced the mechanical action to the minimum capability to inflict mischief, and have learned to make fragments in such a manner that they shall produce the least amount of irritation." Dr. Thompson says that when a calculus, whether it be made of uric acid, phosphates, or oxalate of lime, has not exceeded the size of an ordinary nut—rather a vague and uncertain comparison, you will observe—he has not had a single bad result; and that too when the average mean age was over sixty years It is clear, then, that the "diagnosis of the presence of stone in the bladder" early, and "of its size, is of the highest importance." The writer does not believe in the presence of a narrow stricture effectually preventing the introduction of the crusher. He dilates with a gum catheter, which he allows to remain in only a day or two, and then passes the instrument without much difficulty in accomplishing his object. In the discovery of small stones in the bladder, upon which he speaks warmly, he says, "find that man's calculus when it is small and you are certain to save him," and in this connection speaks of the absolute necessity of using a light sound which will roll easily between the finger and thumb and does not require the wrist for its movement. It must be obvious to every one who has searched for stone and studied the philosophy of this subject, that the great lithotomist does not exaggerate the necesssity of having the searcher constructed with extreme delicacy. And next of importance is the great necessity of having the instrument made with a very short beak, so as to secure free movement in every direction upon entering the bladder; and equally necessary is the amount and character of curve, a curve that corresponds with the greatest number of urethræ. "This has been found to be one which will mathematically agree with a circle 3¼ inches in diameter, and as representing the sub-pubic curve the proper length of arc of such a circle is that subtended by a chord 2¾ inches long."—(Van Buren.) I make reference to this, not for the purpose of giving to this learned body something new—for the principles are perfectly familiar; but chiefly do I call your attention to this because of the very faulty construction of many, I was about to say the majority, of the sounds sold in our shops. And to this same faultiness of construction as applied to catheters, particularly with reference to the curve, are many physicians indebted for the difficulties encountered in catheterisation; an operation which, in a normal urethra, is one of the easiest performed of any that falls into the hands of the surgeon. Concerning the timely notice of the early symptoms of calculus, which in the whole course of his experience he says "have not been absent in more than two or three cases," he esteems it as the most vital point in the whole question. After disputing the alleged greater frequency of stone in children than in the adults, he with emphasis notes the more invariable of these symptoms—the history of gout in the patient himself or his ancestor; at middle life the brick-dust deposit more or less persisting; after a time a small bit of gravel, with or without renal pain, passes, and may clog the urethra, being caught as we have seen it at the meatus externus, the narrowest part of the canal; another and then another passes, but after a while they cease to come, and the patient considers himself to have outgrown his trouble, despite the persistence of some rather annoying symptoms, which are referred "to that little weakness of the bladder which all people have as they get onward in years." And what are some of these symptoms? More frequent micturition during the day than the night, the opposite of what obtains in "old man's" trouble; a stinging pain after each micturition; and then one day after a horse-back ride or a long walk there comes a little blood, which is soon forgotten by both patient and physician, of being promptly considered and the opportunity utilized of at once examining the bladder. In the bright future which this distingushed operator predicts for the course of this grave malady, the profession at large holds full and free sympathy.

We regret very much that there is nothing of practical importance to note concerning the pathology and treatment of cancer, this ghastly disease continuing to baffle the most learned and assiduous. The localists and constitutionalists, neither being exclusivists, have failed to offer anything that will promise eradication of this destructive disease; but it is hoped that though the land may not be in sight that still it is not far off, and that before another year is passed away medicine may introduce right here another boon for the human race.

We cannot close this already lengthy report without making some reference to the result of one year's tolerably extensive trial of Esmarch's method for bloodless operating. Dr. Esmarch himself, who can scarcely be expected to testify against his own interests, appeared before the Clinical Society of London last October, and spoke in glowing terms of his own experience with his apparatus. He states that bloodless operations are as successful as those treated according to the antiseptic method. His results are certainly superb, comparing those operations performed before with those performed after the adoption of his procedure. For instance, taking 88 ordinary amputations of the thigh, 37 died, or 42 per cent.; and of 67 ordinary amputations of the leg, 19, or 23 per cent. had died; whereas in 13 thigh amputations after the bloodless method had been adopted there was only one death, and after 12 amputations of the leg with the similar method the number of deaths was also one. Prof. Esmarch speaks of using his method in 300 cases, and had met with no evil results that could by any means be attributable to it. The most of your committee have had several opportunities to make use of this valuable instrument since the last session of the faculty, and in every instance, without one single exception, it is believed to have given the most perfect satisfaction. For explorations in quest of small fragments of foreign bodies, for treatment of necrosed bone and traumatic aneurisms, it is believed that the apparatus is invaluable. With reference to the power of this plan of operating producing such complications as interference with the healing process from the prolonged oozing of blood, of paralysis partial or complete of the member by reason of prolonged pressure, of blood-clot in the veins or arteries, of sloughing or want of action in aged subjects, it must be generally admitted has not been often demonstrated. These objections seem more in accord with an *a priori* estimate of its value than with the results of its practical application. Esmarch detailed an operation for the removal of the penis and scrotum on account of epithelioma in which his apparatus was used. He describes as follows: "The penis and scrotum being encircled by the elastic tubing, which was also continued around the abdomen in order to be secured, the penis and anterior wall of scrotum were removed without loss of blood; the diseased inguinal glands were next removed from both groins, both crura penis were dissected from the pubes, the urethra was brought to terminate at the back of the scrotum, and the whole wounded surface finally covered with the scrotal flaps." As to the effect of keeping the apparatus on for some time he considers of small moment. His longest operation lasted two hours and a quarter, in which, while he was engaged in the removal of dead bone and excision of knee-joint of one side, his assistant was operating for tibial necrosis of the other side. Although not specifically stated, the inference is reasonable that the apparatus was applied to both legs at the same time. I have not the time to mention any other instances of the deeds of this great surgeon, but must presume that as his address, in abstract, has been reported so extensively, it has been pretty generally read. He includes in his address the suggestion of having steel rings of various sizes mounted on handles, to be used in compressing the surrounding planes of eritile and other tumors of the scalp, especially in children.

We conclude this report with a notice of what a valuable addition to the surgeon's table the aspirator has proved. We are prepared, after a few years of experience, not only to affirm its very great usefulness in assisting our diagnosis of disease, but to fully endorse the statement made by Dieulafoy, in his article of 1870, to wit, "I have performed many aspirations. I have plunged the needle almost everywhere, into the articulations, into the lung, into the bladder, into the vaginal cul-de-sac, and I can affirm to have never witnessed the least accident."

REPORT OF THE MONTOUR COUNTY MEDICAL SOCIETY.

By James Oglesby, M. D., Chairman of Committee.

The past year has been one of unusually good heath throughout the country. The only epidemic reported was one of measles, which has been prevailing in Danville and its vicinity for the past three months. The cases which I have attended have not been of a severe or malignant character. The only complicated case was that of a boy eleven years of age, in whom the eruption was followed by erysipelas of the face and scalp.

Intermittent and remittent fever were less prevalent than they have been for the past three years. A few cases of typhoid fever were reported by members of the Society.

Diphtheria, usually of a mild type, appeared occasionally during the fall and winter, while, at the same time, sore throat, both simple and ulcerated, was very frequently met with.

Cases of interest in surgical practice were of less frequent occurrence than usual, on account of the suspension of the iron works during the greater part of the year.

Dr. James D. Strawbridge reports the following interesting cases in obtetrics :—

On the third of the present month, June, 1875, at half past two P. M., I was requested to visit Mrs. R———n, a well developed, and previously healthy, Irish woman, about 39 years of age, then in her 10th labor, in charge of a midwife, and said to be "very bad." I went at once with the messenger, and reached the house in a few minutes. On entering the sick-room, I found the patient on her knees, on the floor, with her head resting on the lap of one of the attendants ; I at once insisted on having her put back to bed, but so continuous and expulsive was the character of the pains, that we were unable to do so for more than fifteen minutes after my arrival, when, after a more prolonged and violent pain, she attempted to throw herself down on the floor, saying, "Oh, I feel so bad." I had her at once lifted into bed, and, as soon after as practicable, made careful digital examination. I found the head resting on the brim of the pelvis, with the swollen integuments filling up the superior strait and projecting into the cavity of the pelvis, indicating the effects of long and severe pressure. From the moment the patient was taken from the floor to be put in bed, the pains seemed to have changed, and rapidly lost their extrusive character, permitting the head to be easily pushed back, and the finger to be passed all around it. The os uteri was nowhere to be felt, having passed up out of reach. I was unable to recognize any part of the head, by which the position could be defined, but sufficient to demonstrate that I had a large hydrocephalic head to deal with. I learned from the midwife, that she had been called first about five o'clock in the morning, and had been in attendance, with the exception of a short interval between six and seven o'clock, up to the time of my arrival ; that the labor had not been severe until about ten o'clock, but that the pains were very strong from that time on. The almost continuous pain from my arrival until the patient was placed in bed, induced a strong suspicion that ergot had been given, and in answer to my inquiries to the midwife, "whether anything had been given, the reply was, "nothing but a little pennyroyal tea." The apparent candor with which the answer was given quieted my suspicions for the time.

I have since learned from the other attendants that at twelve M. they began to be alarmed, and wanted a physician called, but on the midwife's assurance "that it would soon be all over," they consented to delay ; that something was then administered to the patient by the midwife from a little black bottle which she carried in her pocket. Shortly after one o'clock they again insisted upon sending for a physician, and were again put off by the assurance of the midwife that it was unnecessary, and that the labor would soon be safely over ; she agreeing that if it was not over in an hour they might then send for one. Again the little black bottle was resorted to, but at the end of the hour the labor was not over, and the friends having by this time become thoroughly alarmed, I was sent for in spite of her remonstrances. Although the symptoms, from the time the patient was placed in bed, had gradually become more unfavorable, the pains having lost all expulsive force, the pulse increased in frequency, the patient extremely restless, wanting frequently to get out of bed and to turn from side to side, the extremities manifesting some tendency to coldness, and altogether causing me considerable uneasiness, I did not yet suspect the grave character of the injury, which I am now convinced had already taken place. I determined to wait a reasonable time, and watch the progress of the case, in the hope that expulsive pains would soon return, and I could then adopt such measures as circumstances might indicate.

Finding no return of pains, and anticipating the necessity for mechanical interference, I left the house at half-past five P. M., for the purpose of procuring the necessary instruments, intending to be absent an hour or more. On my return, shortly before seven o'clock, I found a very marked change in the condition of the patient ; the countenance had assumed a somewhat livid and extremely anxious expression ; there was great jactitation ; the pulse was extremely frequent, running up to 170 or over per minute. Examination showed the head lying loosely above the superior strait ; upon placing my hand on the abdomen, I found a most unusual projection of the tumor, the breech of the child standing out, as though covered only by the abdominal walls, which closely enveloped it. I diagnosed at once a a rupture of the uterus, and asked to have another physician called. Dr. Isaac Pursel, a leading and experienced practitioner, was immediately sent for, who promptly answered the call, and arrived in a very few minutes. A hasty examination by Dr. P. brought entire accord, both as to the features of the case and measures to be pursued. It was decided first to attempt delivery with forceps, and in case of failure then to test the practicability of podalic version. The effort with the forceps failed, as was anticipated, and, after passing the hand, version was abandoned on account of the great size of the head. While engaged in a momentary conference at the bedside as to further proceedings, the patient was discovered to be dying and expired within fifteen minutes thereafter.

On account of the absence from home of the husband, nothing further was done until his return on the next day, when we were permitted to remove the child from the mother, which was done by an incision through the abdominal and uterine walls. The placenta, which was found adhering by its whole outer surface to the left and posterior sides of the uterus, was also detached, and removed through the incision, when we were enabled to discover a laceration some seven inches in length, extending from the os upward, directly through the middle line of the posterior wall, behind which in Douglas' space was found a considerable coagulum of blood, amounting to nearly two pints. The child weighed eleven pounds, the head measured 21½ inches in circumference, the occipito-frontal diameter measured 8½ inches, and the transverse diameter 7 inches. This enormous head, forced prematurely through an insufficiently dilated os, by the contractile power of large doses of fluid extract of ergot administered by an ignorant and unscrupulous midwife, intent only upon earning her fee, and therefore determined to conclude the labor without the aid of a physician, leaves me no room to doubt that the rupture must have occurred during that last and terrible pain experienced by the patient, when she "felt so bad" and attempted to throw herself on the floor.

The following interesting case of rupture of the uterus, commencing at the os in front, extending directly upward, involving the bladder, and terminating in recovery, with vesico vaginal and vesico-uterine, fistula, seems appropriate in connection with the case above related.

This case was the subject of a thesis for graduation by Dr. Wm. Robins, at the Jefferson Medical College, in the spring of 1873.

I was called in January, 1872, by my friend, Dr. John K. Robins, of Catawissa, to see a case of vesico-vaginal fistula, for the purpose of operation, and performed the operation January 17th. I cannot do better than to give the history as related in the memoranda furnished to me by Dr. Robins some time after the patient's recovery from the operation :—

"On the sixth day after her confinement, I was sent for to see Mrs. G———, who informed me that her labor had commenced Monday evening at seven o'clock, and terminated on Wednesday morning about the same hour; that her labor had been a tedious and severe one, but that no instruments had been used; that during a very protracted and severe pain the head was suddenly expelled with the sensation, as she expressed it, 'of something having torn or given way.'

"After the birth of the head there was entire cessation of pain, and the body was not delivered until two hours after. The child was stillborn. She also stated that, since confinement, her urine has been constantly dribbling away.

"On making an examination I discovered laceration of the anterior wall of the vagina an inch and a half in length, extending up to the cervix uteri; about half an inch of the lower extremity of the laceration communicating with the bladder, forming a vesico-vaginal fistula. Patient was also suffering from severe pain and high irritative fever. Prescribed suitable remedies, introduced catheter, and enjoined rest. Changed catheter every second or third day, when it was finally removed and vaginal laceration found united from the cervix uteri down to the opening communicating with the bladder. The latter remained ununited, and through it, when the catheter was withdrawn, urine escaped freely. Patient was now entirely free from pain and fever, and, except the fistulous opening and consequent discharge of urine, perfectly convalescent. I left the case, promising an operation when the parts were in proper condition.

"Eleven weeks after her confinement, I assisted Dr. Strawbridge in an operation for vesico-vaginal fistula, after the method of Sims with slight modification. Sutures of silver wire were employed, and instead of securing the edges in apposition by twisting the wires as recommended by Sims, they were secured by perforated shot. Both ends of each wire were passed through the perforation in the shot, and then, with a suitable instrument, the shot was pressed firmly down on the vaginal surface and then compressed, thus holding the parts in situ much better than by twisting the wires, and with less danger of lacerating the tissues.

"The first operation failed, practically, by reason of a single stitch cutting through, leaving an opening very little larger than a knitting-needle. In a second operation, this opening was slightly enlarged, and, when the edges were pared and ready for the needle, only two stitches were found necessary to close the opening; but, to secure and sustain these, two additional ones were employed with advantage. On the eighth day after the second operation I visited the patient for the purpose of removing the sutures. The menses had appeared two days previously and were abundant; and, what was puzzling at the time, menstrual blood was observed flowing freely through the catheter.

"I postponed the removal of the sutures to the tenth day, when they were removed and the fistulous opening found entirely united. The operation itself was perfectly successful, not a particle of urine escaping from the site of laceration. But there was evidently leakage from above, and, on exposing the os uteri by means of Sim's speculum, urine was plainly seen trickling from the os.

"From the escape of urine per os uteri and the discharge of menstrual blood through the catheter, I inferred what had not been previously suspected, namely, a fistulous opening between the uterus and bladder—in other words, a vesico-uterine fistula. One week after removal of the sutures the patient was on her feet attending to her usual household duties, but the case still presented features unique and difficult of explanation. When in a recumbent position there was considerable discharge of urine per vaginam, but when on her feet or sitting upright there was no discharge whatever, and she could thus void her urine voluntarily et per vias naturales.

" To verify my diagnosis as to the existence of fistulous opening between uterus and bladder, I visited Mrs. G. during her last menstrual period, 14th of present month (March), introduced the catheter and found, as in the preceding month, urine mingled with blood flowing through the catheter, but less in quantity. She also stated that during the last two weeks the discharge of urine per vaginum had greatly diminished in quantity. In short, although there can be no doubt as to the existence of a fistulous opening between the uterus and bladder, her present condition seems to indicate the gradual closing of the opening, and that nature, in a way curious and difficult of explanation, is performing the work."

I have given the concise and simple memorandum of Dr. Robins as furnished me the second month after the operation.

It is scarcely just to that excellent practitioner to publish the case in the precise language of a hastily written memorandum furnished simply for my own information, but I have done so because I could not better his description. Some time during April or May, I was called to see the patient at Riverside, near Danville, where she was on a visit to friends. I found there had been but little further indication of closure of the fistula from the time the above memoranda were sent me. While standing or sitting, she could retain her urine usually about four hours, and void it naturally, but it immediately began to run through the vagina the moment she lay down. Examination with the speculum showed the urine constantly trickling from the os. I advised no further interference at that time, and said to her that as she was pretty secure against any future pregnancy, she would probably not be any worse off than she was then ; that I could not see any other method of relief to her than by turning the os uteri into the bladder. I believed the opening to be much too high to be remedied by any other means, as the ability to retain the urine four hours while the body remained erect, and the flowing away of all the contents of the bladder immediately on lying down, sufficiently proved.

Very much to my surprise, some time during the latter part of the summer, I learned from Dr. Robins that Mrs. G. was again pregnant. I requested Dr. R. to keep me advised as to the progress of the case and the result. I heard nothing further until after my return from Washington, at the close of the long session of the 43d Congress, when I learned from Dr. R. the following subsequent history of the case :—

Labor came on during the seventh month of the pregnancy. Dr. Robins was called in great haste, and found the child born, and the patient in a complete state of collapse, unconscious, extremities cold, and having had profuse hemorrhage. Was told that the after-birth had not come away. On examining for it he found the cord hanging from the vulva. On passing the finger into the vagina, the placenta was nowhere to be felt. The hand was then passed up into the uterus but no trace of placenta was discovered. The hand was then withdrawn, and, taking hold of the cord, it was followed up to its termination at the placenta, which was found to have passed through a laceration of the anterior wall of the uterus into the bladder. The placenta was removed without difficulty through the opening. The woman rallied under the effects of stimulants, made a good recovery, and is at this time in nearly as good condition as before the last pregnancy. She can retain her urine from two to three hours while erect, but not at all while lying down.

The rupture in this case was undoubtedly caused by the sudden forcible expulsion of the head of the child through an insufficiently dilated os uteri, the laceration extending upward from the os into the body of the uterus, as well as downward through the walls of the vagina and bladder, which was partially united when examined first by Dr. Robins. At the time of operation I found a long, ragged, irregularly puckered cicatrix, extending from the fistulous opening upward in front of the cervix to the utero-vaginal junction. A cicatrix was also distinctly recognizable in the anterior lip of the os, continuous with that in the vagina. The operation was attended with much more than usual difficulty, it being impossible to pare the edges of the fistulous opening in such a manner as to bring them properly in apposition without taking away more than I felt warranted in doing, and to this cause must be attributed the cutting out of the upper suture, which had to be taken on one side through cicatricial tissue, and the consequent failure of the first operation. In the second operation the two extra sutures, as described by Dr. R., brought together freshened ends of fold of vaginal mucous membrane for the purpose of reinforcing the other stitches and rendering assurance doubly sure.

Dr. S. M. Snyder contributes the following report :—

"In my field of practice not many very unusual cases have occurred during the last year. Bilious cases, ague, and cholera infantum, which prevail generally pretty extensively during the summer and fall, were less prevalent than in other years. Scarlatina, sporadically ; and an affection resembling diphtheria, extensively prevailed during the greater part of the year. The most unpleasant cases which I met with have been croup. These have presented the usual symptoms of that disease, but the period in which the physician ought to have been called by the parents or guardians, was allowed to pass ; and, in four cases, I was not sent for until a few hours before death. In one case the child had sounded the alarm for nearly a week, by a hoarse, croupy cough, being intensified every night ; and only the day before I was called it was out doors riding down hill on a hand sled. Nearly all died.

"When called at so late an hour, no matter what the treatment is, there is little hope for recovery. Tracheotomy was not performed in any of the cases. Every case in which timely aid and advice were given resulted favorably. I have seen two or three cases, under the most unfavorable and alarming symptoms, recover, and it is, therefore, to my mind, a matter of opinion if tracheotomy ought to be resorted to, if all other means fail. However, let those who have the opportunity of testing a large number of such cases solve this question.

"A few months ago, I saw a rather singular and unusual case of measles, in a child about fifteen months old. Two months from the time it was first taken sick it had a recurrence of the same disease. The symptoms were identical in each attack, and ran about the same course. This is the second case of the kind which I have have had in my practice. The other was complicated with croup, for which tracheotomy was performed with unfavorable result.

"I wish to direct the attention of the profession, again, to the value of quinine, opium, and veratrum viride in puerperal diseases. I called attention to these remedies in the report from this county two years ago, and a further experience with them has more fully confirmed my confidence in their efficacy and value. To reach the end desired, it is necessary to push them to the fullest extent of toleration. The veratrum, being a powerful medicine, should be given very cautiously, as otherwise it might be converted into an instrument of danger, and a valuable remedy fall into disrepute. If it is not possible to be administered under the immediate care of the physician, particular directions should be given to the nurse, in order to counteract its depressing effects, should this undesired result occur. This effect is never desired or necessary, but in some individuals it may happen, and it is necessary that the medicine should then be discontinued for a time altogether, or in reduced doses, and stimulants freely given. The action and effects of quinine and opium, being more generally known, need not be noticed in this connection, further than to state that the opium should be given in quantities sufficient to relieve pain; and in persons that will bear it, not less than twenty grains of quinine, in half as many hours, ought to be given, as soon as the temperature is reduced to justify its administration, and, in some urgent cases, I would not hesitate to give it before this is accomplished."

Dr. Simington writes as follows :—

"During the last year but few interesting cases, aside from those occuring in the practice of every one in the iron and coal regions, presented themselves. Two cases of gunshot wounds, one through the foot and one through the shoulder, recalled scenes of the past on the battle-field. One case of interest was the sudden appearance of a tumor, the size of a walnut, on the abdomen of a child, which for some time defied satisfactory diagnosis. The presence of a needle was at last pointed out by using a magnetized needle suspended near it by a thread. The needle was found deep in the abdominal walls just above the umbilicus.

"In obstetrics, I had fewer complicated cases than usual, but more cases of miscarriage; and I find that uterine diseases are on the increase.

"In children's diseases, I may mention the use of buttermilk in cholera infantum; having used it for some years as a diet in dysentery and typhoid fever, with great satisfaction, I was led to try it in cholera infantum, and will detail a couple of cases from a large number, in which its efficacy was sufficiently demonstrated.

"CASE I.—G. R., fed with the bottle, three weeks old, had constant vomiting, diarrhea, great emaciation, and want of sleep. Ordered fresh buttermilk, in teaspoonful doses every few minutes, and nothing else to be given. The relief was immediate; the child slept well and fattened up rapidly. An old lady friend of the family came there some weeks after, and was shocked at the idea of such an unheard-of thing as giving so young a bady buttermilk, saying she would show them how to feed a baby, did so, and in two days the vomiting, etc., returned, and nothing would stop it until a return to the buttermilk set all to rights again.

"CASE 2.—Twins of W. M., four months old, fed with the bottle, were reduced to the last degree of emaciation, with vomiting and diarrhea. I learned from the attending physician that all the usual plans had been tried; ordered buttermilk. The relief was immediate; they became fat and good humored; and, though now over a year old, one of them still prefers buttermilk to anything else.

"The prejudice of the women is so strong against the idea of giving a little child buttermilk, and they are so disposed to supply a little 'other food' between times, because they imagine the poor child would starve on such trash, that it is a difficult matter to make them depend on it alone, and not to give too much at once. When the 'other food' supplied keeps up the trouble, they say the buttermilk does not agree with the child, and they discontinue it. In several cases, it was only when the child's death became imminent, and I told them they would be responsible for it, that I could induce them to return to buttermilk, and yet the children recovered as soon as my orders were complied with. Could we but stoop to so humble an article as buttermilk, and give its use the same attention and research that we are so ready to give to every new preparation that comes to us from the chemist, we should, I think, find less to disappoint and more to satisfy us than from the many wonderful compounds that have lived their brief day and now are almost forgotten. We see its disinfectant powers in its preservation of fresh meat; by its constant use the old may prevent the ossification of their arteries, and in it we have a certain antidote to the not-much-feared poisonous effects of the use of ammoniacal waters."

NOTE ON THE DISCHARGE OF OVA, AND ITS RELATION IN POINT OF TIME TO MENSTRUATION.

By JOHN WILLIAMS, M. D. LOND., Assistant Obstetric Physician to University College Hospital.

It is a recognized fact in physiology that ova are discharged in connection with the menstrual function, but it is uncertain at what time in the course of the month the separation takes place. It is generally understood to occur towards the end of the discharge, or immediately after its cessation. I have, however, reason to believe, from observations made in several subjects, that such is not the case, but that it takes place before the appearance of the monthly flow with which it is connected. The cases which have come under my observation fall into four series, as follows:—

A. Cases, six in number, in which a Graafian follicle had been matured and actually ruptured.

1. The first of these was a young girl who died through the effects of a fall, three or four days before the expected return of the catamenia. In the left ovary was a recently ruptured Graafian follicle. The cavity of the follicle was about ¾ inch in diameter, and contained a recent clot, which projected slightly through the rupture; the clot was of a fresh red color, nowhere adherent to the parts around, for on making a section through the follicle it fell out. The wall of the vesicle was of a pale yellowish color, and slightly wrinkled. The rupture had evidently taken place a short time only before death.

2. The second subject was a woman who died suddenly through a fall, probably a fortnight after the cessation of the last menstrual flow. On examination a considerable quantity of blood was found in the cavity of the peritoneum, and the liver was torn. In the left ovary was a ruptured follicle with corrugated and collapsed walls; its cavity contained no blood, but there was a slight effusion between its lining membrane and its outer coat. The depth of the follicle from the rupture to the furthest point of the opposite wall measured nearly ¾ inch. It is not impossible that this follicle was ruptured somewhat prematurely by the shock of the fall.

3. The next example was observed during life. Mr. Christopher Heath performed ovariotomy on a patient on the fourteenth day after the cessation of the last catamenial discharge. Menstrnation lasted usually three days, and the patient had always been regular every four weeks. In the ordinary course of things the next flow would have appeared in eleven days. When the diseased ovary had been removed, the remaing one was raised up, with a view to see if it were healthy, and it was observed that it contained an enlarged Graafian follicle, which became ruptured when being held in the hand. I ought to add that the flow returned three days after the operation, and eight days before it was due.

4. The next case was a young woman who died of pleurisy on the fifth day of menstruation. On the surface of the left ovary was a rough,

brownish-colored, star-like cicatrix. On section there was seen under the cicatrix a corpus luteum, dilated in the middle and narrow at both ends, nearly ¾ inch in length and ½ inch in width ; its walls were in some parts of a pinkish and in others of a yellowish color, slightly if at all thicker than those previously mentioned, and had small prominences on its inner surface. In the centre was a partially decolorized clot, which was but slightly adherent to the surrounding walls. From these characters it is evident that the rupture of the follicle must have taken place several days before.

5. The fifth member of this series was a patient who died on the fourth day of menstruation, and about the ninth of typhoid fever. One ovary contained a corpus luteum similar to the one just described.

6. The last example occurred in a young girl, who died of pneumonia six days after the cessation of the catamenia. On the surface of the right ovary was a small cicatrix, beneath which was a corpus luteum with the following characters : It was of an irregular, elongated shape, nearly ½ inch in length and ¼ in width ; had thick, yellow, convoluted walls, and enclosed a small whitish mass, in which were two dark-colored spots, which were evidently the remains of a clot. This ovary contained also a Graafian follicle of the size of a small pea. The determination of the age of effused blood is always difficult. In the Graafian follicle which becomes ruptured without impregnation taking place it is known that certain definite changes occur ; the wall of the vesicle becomes thick, yellow, and convoluted ; the blood which flowed into it and filled it becomes decolorized and absorbed. The exact length of time in which these changes in the follicle are brought about is not accurately determined, but it is known that the corpus luteum of one menstruation has become considerably atrophied by the return of the next.

It appears to me that the yellow body in the last example of this group was considerably older than the two preceding ones, and that it was more than a fortnight old, and that the two preceding ones were from eight to ten days.

B. Cases, four in number, in which a Graafian follicle had been matured, and hemorrhage had taken place into its cavity, but no actual rupture had occurred.

1. The first case was a patient who died of pyæmia in the third week after the cessation of the last catamenial flow. The left ovary contained a follicle ¾ inch in diameter, distended by a recent non-adherent, softish coagulum, uniform in consistence and color. This follicle was prominent above the adjacent surface of the ovary ; and its superficial wall was thick, and presented no tendency to point or rupture. There was no recent rupture to be seen on the surface of either ovary.

2. The second example was a woman who had undergone an operation for fistula in ano. The monthly flow made its appearance a week before the expected time for its return, and she died five days after. One ovary contained a follicle measuring ⅝ inch by ⅓ inch ; this follicle contained a bright red, fresh, loose clot, and its walls were thin and not corrugated. From these characters it appears that the hemorrhage into the follicle had taken place but a short time before death.

3. The next was a patient who had undergone an operation for the removal of an ovarian tumor. She died a fortnight after the operation, when she had menstruated for one day. At the inner extremity of the left ovary was a large, dark-colored, softish mass, which, on section, proved to be a Graafian follicle containing a brick-red-colored clot, which appeared to be of a spongy texture. It could with difficulty be turned out of the sac. After

its removal it was seen that the wall of the sac was formed by a thin, yellowish substance.

4. The last example in this group was a person who suffered with fibroid tumor of the uterus. She died on the third or fourth day of the menstrual flow. Both ovaries were bound to the surrounding structures by tough and firm false membranes. The left contained a follicle nearly an inch in length, in which was found a softish, dark-colored clot, having a spongy texture, which appeared to be several days old.

In the first and third members of this group hemorrhage had taken place into the follicle unquestionably before the appearance of the catamenial discharge.

In the second, hemorrhage had occurred before the flow had become due ; but the latter, owing to surgical interference, having returned a week before its time, the hemorrhage took place while the discharge was in progress.

In the fourth, the condition of the clot makes it almost certain that the hemorrhage had taken place before the appearance of the catamenia.

C. One case, in which a Graafian follicle had matured, but where neither rupture nor hemorrhage had actually occurred.

This was a patient who died of typhoid fever just before the appearance of the catamenia. In one ovary there was an enlarged Graafian follicle, which was highly vascular, and projected like a nipple beyond the surrounding surface. It was evidently on the point of bursting, and it is doubtful whether rupture of the follicle or the appearance of the discharge would have taken place first.

D. Cases, three in number, in which no Graafian follicle had become enlarged to the size exhibited by it at maturity.

The first was a patient in whom the menstrual flow had almost ceased. There was no rupture in either ovary, but the right contained a Graafian follicle about the size of a small pea.

The next was a young suicide, who died three days after the cessation of the catamenial discharge. There was no recent rupture in either ovary, but the left contained a follicle similar to the one seen in the preceding case.

The last member of the series was a girl who died of peritonitis, caused by the rupture of an abscess on the right ovary. In the left was a Graafian follicle about the size of a small pea, but no recent rupture. The state of the lining membrane of the uterus showed that in this case menstruation was imminent.

Besides the appearances described, there were in all the preceding cases numerous Graafian follicles, varying in size from a millet-seed downwards together with some superficial pits and atrophied corpora lutea.

These cases appear to me to bear out the opinion stated at the beginning of the paper, that, in the great majority of subjects, the discharge of ova takes place before the appearance of the menstrual flow with which it is connected ; for in ten out of the fourteen rupture of a follicle, or hemorrhage into its cavity, had occurred before the return of the catamenia ; in one it was doubtful whether rupture of a follicle, or the appearance of the discharge, would have taken place first; in two a menstrual period had passed without maturation of a follicle ; and in one a periodical discharge was imminent, though the ovaries contained no matured Graafian follicle. It is not improbable that the follicles which were found in the three last cases, and which were enlarged to the size of a small pea, would have become mature by the next return of the flow.

I have carefully considered the cases recorded by Cruikshank, Jones, Paterson, Lee, Girdwood, Negrier, Coste and others, and find that, though they do not contribute materially to the solution of the question discussed in this paper, yet, in so far as they go, they favor the view put forward here —a view which derives support from the custom imposed by the Levitical law, and observed to this day by the stricter sect of the Hebrew community.

Postscript.—Since writing the above, I have had opportunities to examine two subjects in whom the date of the last menstruation was known.

The first was a girl aged seventeen years, who died on the fifth day after admission to the Middlesex Hospital of traumatic tetanus. She was said to have ceased to menstruate just before admission; and the condition of the inner surface of the uterus confirmed that statement. The uterus and ovaries were small and imperfectly developed. On the surface of the right ovary was found a patch ½ inch in diameter, slightly injected, and presenting a punctated appearance. In its centre was a cicatrix, appearing as a white spot, beneath which was situated a yellow body, elongated and irregularly flattened in shape. This appeared to be due to pressure from several Graafian follicles growing in close proximity to it, the largest of which was as large as a small pea. The yellow body measured nearly ½ inch in length; it had folded walls, and in its centre was a thin elongated clot, the middle of which was of a dark color.

The second subject was aged twenty-six years; she died of Bright's disease. The last menstruation began May 13th, ceased May 19th, and death occurred May 28th, fifteen days after the appearance of the flow. Hemorrhage had taken place into the superficial tissue of the ovaries, probably by reason of the condition of the blood.

In the right was a small superficial prominence formed by a yellow body, which measured about ⅜ inch in diameter; it was throughout of a yellowish color, and contained no trace of the coloring-matter of blood. On comparing these organs with one another and with those previously described, I am led to infer that in the first twelve to fourteen days, and in the second about twenty days had elapsed since rupture of the follicle occurred.

Reichert has examined twenty-three organs in which signs of menstruation were recognizable. In four cases a Graafian follicle had matured but not, ruptured nor had hemorrhage taken place, though the decidua menstrualis was in a state of greater or less development; in eighteen cases a Graafian follicle had ruptured, and hemorrhage had taken place into the decidua; in one case only, in which bleeding had not begun, had a Graafian follicle been ruptured. The latter statement appears opposed to the conclusions at which I have arrived; but this is only apparent; for in one case a follicle had ruptured, in four a Graafian follicle had matured before hemorrhage began, and in one of these rupture was on the eve of taking place; in eighteen a follicle had ruptured, and hemorrhage had taken place into the decidua menstrualis. Put in this form, Reichert's cases are not opposed to the conclusions arrived at in the preceding note; and as his cases have not been described, it is not possible to say what their actual bearing may be. The conclusion arrived at by Reichert, after examination of the twenty-third specimens, however, is, that rupture of the Graafian follicle takes place at an early stage of the menstrual flow.

INTUSSUSCEPTION OF THE LARGE INTESTINE ABDOMINAL SECTION.

Under the care of MR. ROYES BELL.

The following case is important as illustrating the difficulty that may attend the reduction of an intussusception, even when there are no adhesions.

The patient was originally under the care of Dr. J. Henry Philpot, Physician to the St. Pancras and Northern Dispensary, to whom we are indebted for the subjoined notes.

A male child, sixteen months old, was taken by his grandmother to the dispensary on October 21st. The grandmother stated that the child had been delicate from birth, and had been brought up by hand; and that he had been troubled for a long time with diarrhea. On October 17th the diarrhea suddenly ceased, but as the child seemed as well as usual, except that he showed less desire for food, no attention was paid to it. When in bed with him on the night of the 18th she was disturbed by his suddenly crying out with pain, and noticed that he had wetted his night-dress. By the morning light she found his night-dress stained with blood, and there was also a clot of dark blood on it of the size of a half-crown. From that time the child became manifestly worse; he was dull and sleepy; refused nearly all food, and mostly brought up the little he had been coaxed to take. At the same time there was great thirst. The child showed signs of suffering from pain, and his belly swelled. Every now and then he appeared to strain, but the only result was a small quantity of slime and blood.

When first seen (October 21st) the child looked pale and anxious; his limbs were thin and flabby, but the abdomen was swollen and typanitic. On deep pressure in the left iliac region, a distinct tumor could be felt extending up into the left lumbar region. Its limits could be clearly mapped out by percussion, and it was found to be about three inches in length, and one inch in breadth. About the anus some blood-stained viscid mucus were found clinging. On digital examination per rectum, no obstruction could be detected, but on gently passing a soft bougie, some resistance was met with about five inches above the anus. The child bore all these manipulations without complaint. Intussusception of the larger bowel was diagnosed. On the following day the child was seen by Mr. Cross, the resident surgeon, who stated that, on rectal examination by the finger, the anus was found to be very lax and the rectum roomy; about three inches from the anus the finger met with an obstruction, which was evidently an intussuscepted portion of the bowel, which was felt projecting into the rectum in the form of a soft, rounded tumor, resembling the os uteri in the pregnant state. The finger could not only be passed round the descended gut, between it and the rectum, but was also easily admitted into the orifice of the former. On withdrawing the finger, it was found smeared with blood and mucus, showing that the intussuscepted mass bled easily. On examination with the rectal speculum, the invaginated portion presented an ash-gray color. The resisting tumor was still to be felt in the left iliac fossa, and its boundaries could be distinguished on percusssion as before. Copious injections of warm soap-and-water were made by Mr. Cross, but without the desired effect of restoring the intussuscepted bowel.

As it was impossible to proceed to more radical treatment at the grandmother's house, the child was admitted into King's College Hospital, under the care of Mr. Royes Bell, who is also surgeon to the dispensary.

On Saturday, the 23d, six days after the cessation of the diarrhea, the symptom were in all essential points unchanged, except that the child was more apathetic, the abdomen was more swollen and tympanitic, and there was still less appetite. Vomiting continued, but was by no means frequent or distressing, and the ejecta were inoffensive. It was determined on consultation first to inject air per rectum, and in the event of that expedient proving unsuccessful, to proceed at once to perform abdominal section. A few whiffs of chloroform were given, and a tube was passed up to the orifice of the intussuscepted portion, gentle attempts being made to return the bowel by this means. These attemps were, however, unsuccessful, as was also the injection of air into the lower bowel, and into the orifice of the prolapsed bowel.

Abdominal section was then performed. An incision through the skin was made down the median line of the abdomen, commencing one inch above the umbilicus, and extending nearly to the symphysis pubis, and the layers of abdominal wall were divided upon a director. The peritoneum was carefully opened, and the intestines were seen to be much distended with gas, and pink and injected on their surface. It was impossible to prevent some portion of the small intestines from escaping from the wound, but they were immediately covered by a cloth wrung out in warm water. The intussuscepted bowel was readily found, occupying the left iliac and lumbar regions. It was from three to four inches in length, about one inch in diameter, and sausage-shaped, solid to the touch, and dark purple in color, with distended vessels ramifying upon its surface. It was evident that a portion of the descending colon had become intussuscepted in the sigmoid flexure. Attempts were made to reduce it, but though as much traction was made as could be safely ventured upon it could not be moved. Mr. Bell therefore proceeded to pass threads through the portion of bowel immediately above the intussusception, and then opened it. A quantity of gray fæcal fluid and some gas escaped from the opening, and the former was received upon sponges, none of it being allowed to come in contact with the peritoneum. The escaped bowels were then returned with some difficulty, and the opening in the abdominal wall was closed, the artificial opening in the bowel being sutured to the upper part of the external wound. The child seemed to bear the operation well, but his strength gradually failed, and he died about seven hours after it.

On examination of the body forty hours after death, the thoracic viscera were found quite normal. In the abdominal cavity the intestines were glued together by recently formed lymph. The intusssuscepted portion was discovered occupying the left region of the abdomen. A part of the transverse colon, the splenic flexure, and part of the descending colon, were intussuscepted by the rest of the descending colon and the sigmoid flexure, whose serous coat was ruptured in several places. It was found impossible to reduce the vaginated bowel by using ordinary force. On opening up the sigmoid flexure the intussuscepted portion was seen to be twisted in somewhat spiral manner. On cutting through the second layer of sigmoid flexure no lymph was found between the serous surfaces, except at the extreme lowest portion of the bend. The portion of bowel projecting into the rectum was found deeply congested and moderately hard. The orifice in its centre was elongated, owing to the traction of the mesentery in that portion of the lip of the orifice corresponding to its attachment. A large sized catheter could be passed right through the intussuscepted portion into the normal intestine above it. The stomach and the rest of the intestines were moderately distended with gas; the other abdominal organs were perfectly natural.

It may be remarked, that from the first there could be no doubt about the diagnosis, but, in any case, prognosis was almost hopeless, especially after the failure of the milder methods of treatment. It was one of those cases in which Mr. Hutchinson recommends early resort to the operation of abdominal section; but though, as proved at the post-mortem, the adjacent serous coverings of the bowels were not bound together by lymph to any great extent, it was found impossible to reduce the intussusception by traction, either in the operating theatre or in the dead-house. The history of the case—intussusception following on constant diarrhea—points to another risk attending the latter condition in young children, and provides an additional argument in favor of arresting it as soon as possible.

MIDDLESEX HOSPITAL.

CHRONIC ULCERS OF BOTH LEGS; DRY GANGRENE OF BOTH LEGS—GRADUAL IN RIGHT, SUDDEN IN LEFT.

Under the care of Mr. HULKE.

An extremely interesting case of dry gangrene of both legs is at the present time in this hospital. Such a condition as that described below is, we believe, rare, if not altogether unique, in surgical practice. The explanation offered of the mechanism of the gangrene by Mr. Hulke is not only ingenious, but the only one that would account for all the facts. We shall report later on the subsequent progress of this remarkable case. For the notes of its history and progress we are indebted to Mr. G. Sherman Bigg.

The patient, an illuminator aged thirty three, had been in the hospital during several of the summer and early autumn months, with chronic ulcers of very old date in both legs. He was discharged on October 12th, greatly benefited by the rest and the care bestowed on him, but with the ulcers incompletely cicatrized. It indeed seemed scarcely probable that they would ever completely and soundly close. After this he stayed at home a fortnight, and then went to his work—illuminating—for two days. On the third morning he noticed that the lower (the unhealed) part of the ulcer in the right leg, just above the inner ankle, was slightly discolored. It was bluish, then greenish, and next day black. This discoloration shortly extended from the ulcer to the instep, and soon the third and fourth toes became blue, and later black and shrivelled. In this state he applied, on the 23d of November, to be readmitted. The two toes, a patch of skin on the instep half the size of the palm of the hand, and the lower half of the ulcer in the right leg were in a condition of dry gangrene. He was placed in Handel ward, and the foot and leg were wrapped in dry cotton-wool, and, as he complained of much pain, he was ordered opium in doses of one grain at intervals, regulated by his suffering. Next day it was ascertained that in the night his left leg had become very painful, and the left foot in the morning was found cold and numbed; it was also dull white and shrunk, and the cutaneous veins, instead of presenting their usual prominence, were indicated by faint, scarcely marked lines, like little channels. It was now discovered that all arterial pulsation was absent below the groins, nor could any be felt in the left external iliac artery. Mr.

Hulke was very doubtful whether there was not a feeble pulse in the right external iliac, the uncertainty on this point being caused by the suspicion that the extremely faint pulse which Mr. Hulke thought he detected here might actually be in the deep epigastric artery, and the suspicion was heightened by the very conspicuous collateral distension of the communicating veins of the internal mammary and epigastric systems. This latter feature disappeared after about twenty-four hours.

In the course of some clinical remarks on the 7th inst., Mr. Hulke observed:—This is a case of gangrene beginning and slowly progressive in the right leg, and suddenly supervening in the left leg. The gangrene was dry, and dependent on arterial obstruction. The disease began in the right leg, and the hard cylindroid form of its superficial femoral artery, so far as it was accessible to touch, showed the obstruction to be due to clotting. What, then, was the origin of this? Clots, Mr. Hulke said, originate either at the place where they are found, or they have their origin in a plug or embolon, often a morsel, of fibrine, brought by the blood-stream from some distant point. Was the clot in the right leg, so to speak, autochthonic or embolic in its inception? Turning to the heart, there was not any evidence of the existence of valvular disease, so that it was highly improbable that a plug should be derived from this source. Next, by listening to the abdominal aorta, this vessel could be heard to pulsate unusually forcible for a certain distance short of its bifurcation; at this point the pulsation became very faint, and was now quite inaudible. Dr. Greenhow co-operated in ascertaining these data. The fullness of the patient's belly did not allow of an absolute decision, but the conviction was very strong that the inaudibility of the pulsation here was not due to the presence of any tumor or extraneous mass overlying the vessel, but to it, actual cessation. The origin of the clotting had, then, to be sought in the limb itself. The two chief factors on which the fluidity of the blood depends are, as they were aware, the constant motion imparted to it by the heart, and the healthiness—in particular the smoothness—of the vessels through which it circulates. The most common disorder which roughens the interior surface of the arterial tubes is chronic deformitive endarteritis, a process exactly corresponding in the textural alterations it induces to endocarditis. Chronic endarteritis is, however, usually a widely diffused disorder, and as the arteries of the upper extremities and those of the head bore no traces of its presence, both Dr. Greenhow and Mr. Hulke felt compelled to exclude it from consideration. This narrowed down the field of inquiry to the part where the gangrene first showed itself—the lower end of the chronic ulcer. This first, it will be remembered, became bluish-green, then black—in short, gangrenous. He thought it most likely that some of the smallest vessels, bordering on the ulcer, first were obstructed, whether from textural changes, induced in them by the proximity of the ulcerative process, or whether some of them gave way and the occluding clot which sealed them passed inwards along their lumen, is of little moment. Once begun, the clot extended peripherally, blocking the arterial twigs supplying the skin of the instep, and later those distributed to the toes, killing those parts, and it extended also centripetally, rising through the tibial arteries, through the superficial and common femoral arteries, the external and common iliac arteries, till it projected into the lowest part of the abdominal aorta; there its tapering apex, encountering the downward rush of blood in the main trunk, was swept off by it, plugging suddenly the left iliac or one of its main divisions, when, the obstruction being complete on both sides, the clot grew upwards for a certain height into the aorta itself.

What, Mr. Hulke asked, is the probable forecast in such a case?

Though very grave, the man's condition was not hopeless. The gangrene was still slowly spreading, but he judged that it would not ascend above the knees. By using dry dressings desiccation of the mortified parts would be arrested, and by that means the fetor would be kept down and the amount of infective putrid diffusible substances in the limb lessened, and with this the risks of a fatal septicæmia would be diminished. Oakum and charcoal were very useful.

In discussing the question of amputation, Mr. Hulke remarked that to do so now, before the eventual limits of the gangrene were known, would be to court gangrene of the stump, necessitating, if the man rallied from the double operation, a second amputation nearer the trunk. Even should a line of demarcation form, the safer plan would be to simply cut through the dead parts, and leave an inch or so of them to be spontaneously thrown off. Such stumps would of course be conical, but later the soft parts could be pushed back and a piece of bone removed if necessary. A not very small experience of gangrene from frost bite, gathered in the Crimean campaign, and the unfortunate results of amputation in dry gangrene of limbs in typhoid fever, had taught him that a cautious expectant treatment was safer for the patient than early operative measures in gangrene dependent on arterial obstruction.

Dec. 7th—His temperature, which since his admittance has varied between 98.8 to 99.6°, has risen to 100 2. His pulse averages about the same—116. His feet are both becoming darker, although the pulsation is rather stronger, especially on the right side, than previously. He still requires six opium pills a day (one grain each) to keep him free from pain.

9th—Complains of sore throat which is somewhat relaxed. Ordered chlorate of potash gargle. The line of demarcation on the right foot is beginning to show itself above.

11th—The left foot is losing its dark color and assuming one of a more pinkish hue; the right foot is also improving, but the line of separation above is more marked. His temperature is 101.4°.

13th—The line of separation daily becomes more conspicuous on the right leg. The two toes, which were black, are still quite firm, and do not show any signs of separating. The left foot is beginning to assume a more natural color. The pulsation in the right groin is very much stronger, but does not extend below the groin; on the left side the pulsation is not so marked, but is stronger than when the patient was admitted; it also cannot be felt below the groin. Sore throat is now quite relieved. Last night and this morning his temperature has been for the first time normal. Patient states that he feels better and much improved in general health. The thighs are warm.

NOTES ON THE ADMINISTRATION OF ALCOHOL IN THE TREATMENT OF DISEASE.

By Benjamin W. Richardson, M. D., F. R. S.

I cannot, I think, begin the work of the new year more usefully than by recording a few observations on the employment of alcohol in the treatment of disease.

In the earliest part of my professsional career—twenty-five to thirty years ago—the lessons taught in the English and Scottish schools were very simple, and, admitting the premises on which they were based, sound. They were the continuation of the Brunonian theory, though the name of the theory, and much of its curious history, had become entirely forgotten. The value of alcohol was thought to lie in its power of sustaining the animal body during " asthenic " states, and of saving the body from exhaustion of its "excitability." Alcohol, therefore, was administered, with moderate freedom, in cases of general dyspeptic debility ; of hemorrhages ; of fever, when the pulse was failing in power ; of syncope ; of shock ; of exhaustion from a discharge from the body, as from an abscess, or from free secretion of milk in the woman ; of depression from severe inflammatory states, as in carbuncle or erysipelas ; of melancholic, depressed, and nervous states of mind ; of phthisis pulmonalis ; of hysteria ; of delirium tremens ; of paralysis. It was administered in all cases in which it was considered that the patient would be likely to sink, or in which the patient was thought to be actually sinking into death. The universality of the remedy, as an aid to substances more purely medicinal, was, in fact, admitted by nearly every practitioner.

A little later, the employment of alcohol in medicine became, I will not say more systematic, but more extended. The teachings of Dr. Todd led many practitioners to "rely," as they expressed it, on alcohol, to the exclusion, in some instances, of all other active treatment. For my part, I was never drawn into the practice of this extreme school ; but for more than twenty years I held by those lessons which I originally learned from my first masters.

Within the past six or seven years a change has come over the medical world in respect to the value of alcohol as a remedy. This change is due to the new light that has been thrown upon the subject of the physiological action of alcohol. I do not now enter on the physiological question. It is sufficient for me to say that without any kind of prejudice against alcohol as a remedy, with indeed some prejudice in its favor, I have felt it a duty to study its medicinal action in a more critical spirit than I did originally, and that the result is a correction of many errors of grave import. Thus I have learned a series of new truths and practices in the treatment of disease which I would submit as being worthy the consideration of those who have not yet arrived at the same conclusions.

To some of the changes of practice I have been led solely by physiological guidance ; to some by the process of following and testing the practice of other physicians who have ventured to move in steady advance in the path of clinical research.

Of the new facts which I have so far learned from new observation, the followng are the most important.

I. There are cases, commonly called cases of debility, in which there is no objective signs of organic disease. The leading symptoms are those of persistent dyspepsia ; flatulency ; irregular action of the bowels ; hemorrhoids ; much exhaustion under moderate physical exertion, and great mental depression under slight mental disturbances ; extreme nervous excitability, amounting to hysterical excitement ; a condition of urine variable in character, the fluid sometimes of straw color and abundant, at other times scanty and loaded with lithates ; the sleep disturbed, with frequent movements and muscular starts of the lower limbs at the moment of going to sleep ; a deficient appetite, and a white loaded tongue. In these examples—as common, by the way, to-day as in former times—the old practice used to consist in trying "to regulate" the wine or other alcoholic beverage. My experience now is that these symptoms are in nearly every instance caused by alcohol, and that the only certain successful treatment is total abstinence. To the practical conclusion here stated I have been led by the study of the action of alcohol upon the healthy body. The phenomena described are the symptoms of alcohol when it is taken in what is commonly presumed to be a moderate, and, as it has seemed to many, a necessary quantity. These phenomena and their cause have been very carefully and ably described by Dr. Marcet.

II. That alcoholic stimulation was the first point of practice in the treatment of acute hemorrhage was a lesson of all others most impressed on my student life. For many years I held by it, as a matter of faith, so strongly, that if in a fatal case of hemorrhage I had been obliged to withhold the stimulant I should have looked back upon the proceeding with sincere regret. At the same time some striking facts were occasionally presented to me, which startled me at the time, and which would have taught to a mind less forcibly impressed with a preconceived idea a new experience. I was called at night to see a weak and emaciated woman who had been attended by a midwife, and who had been flooding for several hours, owing to retained adherent placenta. The woman was semi-conscious, occasionally feebly convulsed and cold, from the loss of blood. If wine, sherry or port, had been at hand I should have given her half a bottle at least, or any other form of alcohol in like proportion; but there was not a drop of alcoholic drink in the house, and the house was some miles from the village, so I was obliged to get along without the stimulant. I extracted the placenta, kept up firm pressure on the uterus with the hand, and administered freely the only sustenance that could be had—viz: milk diluted with water and sweetened with sugar. The hemorrhage stayed, the patient fell into a sleep, and I left her in the early morning comparatively safe. At a visit later in the day she was in a condition as favorable as I had ever seen for recovery under like circumstances, and she actually recovered as quickly as could be imagined possible, without taking a single dose of alcohol. This recovery was backed by many others; by the recoveries from exhaustion after venesection without administration of alcohol; by the recoveries of the inferior animals from hemorrhages carried up even to apparent death. They did not teach me anything more than a list of curious exceptions from an imaginary rule.

Meanwhile it was impossible to be blind to another set of facts—namely, that the alcoholic remedy for hemorrhage, potent as it might be, was not without its disadvantages. It caused generally a reaction more or less troublesome; and sometimes, during the reaction, hemorrhage recurred. It caused often an extreme, restless nervousness of the patient. It deranged the secretions. It lessened the appetite for sustaining foods, and it led thereupon to an exhaustive, feverish condition—famine fever—which was not satisfactory. Lastly, it was by no means so invariably successful a remedy as might be desired and expected. These drawbacks, however, pertain to many remedies; indeed, not one remedy is certain, not one perfect. Alcohol, therefore, like the rest, must be accepted with all its imperfections on its head.

Gradually, under the light granted by physiological research, I began to discover that alcohol was clearly objectionable as a remedy for hemorrhage. To check the loss of blood from open vessels something is wanted that will either produce rapid coagulation of blood, or that will cause contraction of the bleeding vessels. To push alcohol generally to the extent of causing coagulation of blood in the bleeding part were to push it to the extent of causing coagulation of blood within the heart, a feat not exactly to be desired even for the arrest of a hemorrhage. It does not therefore answer for the first purpose. To push alcohol so as to make it act on the vascular tension was, I found, to push an agent which relaxed the vessels, and let them more easily give forth their blood. It does not therefore answer for the second purpose. Alcohol has another effect, which, up to a certain degree, may be useful in cases of loss of blood, but which, carried a very little further than is useful, is injurious. I mean the effect it exerts over the heart. Under the action of alcohol the stroke of the heart is quickened, and thus in the moments when the impelling, or what we at present call impelling, force of the heart is low, an increased movement is produced which may possibly be temporarily restorative. Unfortunately, it is necessary to keep up the quickened action by giving more of the restorative, and if the over-action induced be uncontrolled, it becomes hurtful ; it prevents in the bleeding surface that statis of blood which is so necessary to ensure a firm clot, and it keeps up an excitability of the brain and the nervous system generally which is opposed to recovery.

The consideration of these facts led me to question the propriety of administering alcohol for the cure of hemorrhage. The doubt, suggested by reasonings resting on physiological observation, was, before long, tested in practice.

I was asked to visit a lady who for many hours had been suffering from hemorrhage after the extraction of a tooth. I found that the cavity of the tooth from which the blood flowed had been several times firmly plugged with cotton saturated in a solution of per chloride of iron. By this means the bleeding had for a period been stanched, but it as constantly recurred, forcing out the plug. During the time brandy had been frequently administered, in order, as it was assumed, to keep going a heart which flagged speedily when the stimulant was long withheld. I found the patient scared, prostrate, and restless ; the action of her heart rapid and feeble ; the bleeding from the cavity free. When I attempted to examine the mouth she vomited, throwing up some blood that she had swallowed, with fluid matter—a part of the last drink she had taken After this she became faint, and I then succeeded in filling the cavity with styptic colloid on cotton-wool, plugging firmly from the bottom of the cavity, particle on particle, as a dentist stops a tooth with gold. The hemorrhage once more stopped. I insisted on the withdrawal of all stimulant. I placed the patient recumbent, got her to swallow slowly a good draught of warm milk containing a little lime-water, and allowed her to recover from the faintness without any enforced reaction. The result was all that could be desired. The hemorrhage did not return, and when the plug came away a few days later there was a firm healing surface beneath. The strength of the patient was rapidly restored.

From this time onwards I have substituted warm milk for alcohol in every case of hemorrhage I have been called to treat, and I am satisfied that the new treatment is safest and soundest. I give one more illustrative example, because of the extreme character of the symptoms.

I was called urgently in the night to meet my friend, Mr. Milson, of St. John's-wood, in the case of a gentleman who was bleeding profusely from the roof of the mouth. The patient was suffering from specific disease affecting the palate and superior maxillary bones ; the bony part of the roof of the mouth was, indeed, a necrosed shell. Through an opening in this dead bone, arterial blood began suddenly to pour, and by the time that we arrived five pints of blood, as I found by after measurement, had been passed into one basin, while much more had been lost which could not be measured. We lifted the fainting man from his bed on to a couch so as to get at the mouth more readily, and we at once firmly plugged with styptic colloid and cotton-wool, after passing styptic ether, by the spray tube, freely into the bleeding cavity. In this manner we stanched the bleeding completely. We gave the patient warm milk, but no stimulant. At this juncture we had the advantage, and what is always an unqualified pleasure, of a consultation with Mr. (now Sir) James Paget. He advised that our firm plug should be left in its place, and he independently and earnestly supported our practice of withholding alcohol. Four days later, owing to the separation of the plug, the hemorrhage recurred as profusely as before, and a new plug would not hold. I therefore, *in extremis*, cut round the margin of dead bone with a dentist's saw, and turned out the necrosed structure altogether. Then we were able to see and secure by torsion two bleeding arteries—anterior palatine or branches from them—and by further use of styptic spray and plug again stanched the bleeding, this time for good, but not until a further loss of at least from five to six pints had been sustained. We followed once more the plan of feeding with milk and of withholding alcohol altogether, and with a success that was without a check. The symptoms of fever, of reaction, of dyspepsia, of nervous restlessness, of sleeplessness, were all saved; the wound healed soundly, and the return of strength progressed rapidly to perfect recovery.—*Lancet.*

EASY METHOD OF CLEANSING THE MIDDLE EAR OF INFANTS.

By MARTIN F. COOMES, M. D., Assistant to the Chair of Ophthalmology and Otology in the Hospital College of Medicine

One of the first difficulties which I had to contend with in practice was that of cleansing the middle ear of infants. The syringe affords a very imperfect means, as is well known by every one, and the use of the Eustachian catheter is, as a rule, interdicted in infants and children under five or six years of age. I may safely say that Eustachian catheterization can not be practiced on such young persons successfully without the use of an anæsthetic. The demand for cleanliness in a case of suppurative inflammation of the drum-cavity is so imperative as to call for the removal of all morbid secretions at least once in twenty-four hours, and in some instances more frequently than this. The Valsalvian method is not applicable to this class of patients, since its execution depends entirely upon their own efforts; and their comprehensive powers not being sufficient to enable them to understand what is necessary on their part, this method of inflation becomes impossible; and moreover, it is not every one who can inflate their ears by Valsalvia's method, though they make ever so perfect an effort. The plan of placing one end of a piece of rubber tubing in the nose and blowing in the other with the mouth, allowing the child to swallow at will, is not satisfactory by any means, as it is impossible to keep a constant current of air passing into the naso-pharyngeal and buccal cavities; and furthermore, the child will not swallow in every instance, an act which is necessary to inflate the middle ear of infants in almost all cases, although not considered so by many prominent authorities.

I tried Politzer's method, which consists in placing the nozzle of an air-bag in the meatus of the nose on one side, closing the meatus on the other side with the thumb and index finger of the left hand, and at the same time retaining the nozzle in position; the patient having previously filled the mouth with water, is told to swallow, and just at the moment the act of deglutition is performed the air-bag must be forcibly compressed by the surgeon; the mouths of the Eustachian tubes being opened by the act of swallowing, the air at once enters the tympanic cavity, and the ear is inflated; or if the tympanic membrane is perforated, the current of air passes on through, carrying pus or mucus with it, if any such secretions be present.

Politzer says that the act of deglutition in infants and children of tender age is unnecessary at the time the air-bag is compressed to permit the passage of air into the tympanum, for the reason that the mouths of the Eustachian tubes are open or more distensible in this class of patients. In infants I have not met with the success that some have claimed for this operation, and I am not the only one who has had the same misfortune. My experience is that the operation in this class of patients is a failure as a rule; but there are exceptions to this just as in all other general rules.

Vontroeltsch, in his treatise on the Ear (page 242), says, "In small children very often, if not always, the compressed air passes from the nasal cavities into the ear without this assistance" (meaning the act of deglutition). From his language it is evident that he has failed to accomplish his desire in some instances, although they may have been few.

After many unsuccessful attempts by Politzer's method, I determined to try a plan which I conjectured would accomplish what I wanted. Early in January, 1875, I tried it, and was not the least disappointed in my anticipations. The mode of execution is very simple, effectual, and easily accomplished.

If the child is too young to stand, or is unruly, it should be placed in the arms of a nurse or assistant, on its back, inclined at an angle of forty-five degrees. The nozzle of a suitable air-bag is placed in the nose just as described in Politzer's method. The surgeon is now in readiness, with the air-bag in one hand, while the other retains its nozzle in position, and at the same time closes the meatus of the opposite side. A teaspoonful of water or milk is put into the child's mouth, which compels it to swallow; and just at the time the act of deglutition is performed the air-bag must be forcibly compressed. In this way the infant's middle ear can be cleansed as thoroughly and hastily as the adult's. There is no danger in the operation. The only precaution necessary is to see that the child has no foreign body or substance in its mouth, which might be blown into the trachea. If the whole teaspoonful of liquid that is put into the child's mouth should be forced into the larynx, it would do no harm. The slight strangulation that occurs in those cases amounts to nothing; in fact, its occurrence is very rare.

This method of inflating and cleansing the middle ear of infants has the following advantages: 1. The assurance of success in every case where the Eustachian tubes are pervious and in a normal condition; 2. The ease and rapidity with which it can be accomplished; 3. It is applicable to a class of patients who will not permit the use of the Eustachian catheter, and who are unable to understand what is necssary on their part for the execution of Politzer's method—viz., a certain class of deaf-mutes and insane persons.—*Louisville Med. News.*

Microscopy.

A NEW MICROSCOPE STAGE.

By J. Edwards Smith, Esq , Ashtabula, Ohio.

Some nine years since, I purchased one of Zentmayer's "Army Hospital Stands." It has been in constant use to the present time. A few weeks ago I begged Mr. Zentmayer to make me a new revolving stage, one thin enough to admit oblique pencils up to 80° from axis. Mr. Zentmayer kindly responded to my request, and I now enjoy a very complete stand, serviceable for all work.

To the many who own army Hospital Stands, I would say, do not abandon them, but " go and do likewise ;" and for the benefit of such I append a brief description of the new stage :

It is 4½ inches in diameter, and a little less than one-fifth of an inch in thickness at the periphery, *decreasing* towards the center to about one-thirty second of an inch at the well hole : the reasons for this are obvious.

The stage consists of two plates, the lower one being securely attached to the " limb " of the stand, and is furnished with adjusting screws for centering ; over this the upper plate is fitted concentrically, and revolves in the optical axis of the instrument ; this plate in turn supports the object carrier which traverses the revolving plate with easy and smooth friction, regulated by a binding screw ; the carrier is also furnished with a removable stop, for use with the Maltwood finder.

Another plate, about three inches in diameter, fitted with tube for carrying sub-stage appliances, connects by a bayonet catch to the under surface of stage, and has a sliding movement for centering purposes ; this plate can be placed in position or removed therefrom instantly.

Notwithstanding this extreme thinness of this stage, I find it to be sufficiently firm. Those, however, who expect the solidity found in English stages, 1¾ inches thick, will be disappointed.

NEW WRINKLES.—I have lately modified my German student's lamp, and get illumination superior to the round Argand burner. The change is easily made with any model of student's lamp, having removable burner, and the cost will not exceed fifty or seventy-five cents.

A friend called my attention three or four weeks ago to a novel arrangement of a bull's eye condensing lens, in connection with lamp and mirror. At first sight I was pleased with this method of illumination and have given the idea considerable study, resulting in a slight change of the arrangement suggested for oblique light work, especially the resolution of difficult diatoms, such as Nos. 18, 19, and 20, of Moller's (balsam) probe platte. The method will be found very superior, easily manipulated, and inexpensive.

A photograph, exhibiting the modified German student's lamp bull's eye condenser, with mirror in exact position required to show Nos. 18, 19 and 20 of Moller platte, and also a separate photograph, showing the " Army Hospital " stand, with its new stage, can be obtained by application to Stephen Sabin, of this place. See his card in another column.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

ANNUAL ADDRESS OF PRESIDENT ASHBURNER—REVIEW OF THE PAST YEAR'S TRANSACTIONS—THE OBJECTS OF THE SOCIETY AND WHAT IT HAS ACCOMPLISHED.

To the Members of the San Francisco Microscopical Society :

GENTLEMEN—This evening, Feb. 3rd, is the beginning of our fifth year, and I am happy to be able to congratulate you upon the present condition and future prospects of our society.

The report of the Treasurer, which will be shortly submitted, will, I think, prove a far more interesting document than any I can offer, as it will show a handsome cash balance in his hands, which I trust will soon be represented by valuable additions to our library and stock of apparatus.

During the past year we have held twenty-three regular meetings, only one out of the prescribed number of twenty-four having failed for want of a quorum. The average attendance of members at these meetings was between eleven and twelve. At nearly every meeting we entertained one or more visitors, and their attendances on these occasions has averaged between three and four.

THE ANNUAL RECEPTION.

Our usual annual reception took place in May last at the Mercantile Library Hall, when twenty-two members exhibited specimens. There were about 350 visitors present during the evening, 400 tickets having been printed and issued. So far as I have heard, the entertainment was regarded as having proved a great success, and well calculated to stimulate us to further efforts in that direction. We have been unable to hold the regular quarterly meetings contemplated some time since, owing to the small size of our rooms, which, with the recent additions of new furniture, are now really by no means large enough to accommodate a full attendance of members, and much less when this number is largely increased by visitors who are always glad to attend our receptions.

At the date of the last annual meeting of his Society we had one life, thirty-two resident, three honorary, and thirty-two corresponding members upon our list of membership. During the past year we have elected five life, eight resident, one honorary and seven corresponding members.

Within the same period two resident members have been transferred at their request to the list of life members by the payment of $175 each; one member has been placed upon the absent list; two have been dropped for non-payment of dues, and five have resigned. At present, therefore, we have eight life, thirty-one resident, four honorary and thirty-nine corresponding members. Three of the honorary members are residents of San Francisco, and together with the life and resident make a total of forty-one active members.

I am glad that the constitutional requirement that the President shall at the annual meeting announce the decease of members which may have taken place during the year will not, this evening, devolve upon me, for although death has been so busy in our community during the past season, it has left our numbers unimpaired.

The only honorary member whom we elected was Col. J. J. Woodward, Assistant Surgeon United States Army, a gentlemen who, though unfortunately for ourselves, is not personally known to any of us, is one of the most distinguished of America microscopists, and in his particular department has no superior, even if he has an equal.

THE LIBRARY.

The Trustees, appreciating the importance of increasing our library as rapidly as was consistent with the funds at their command, selected, very soon after entering upon the duties of their office, Messrs. Henry Sotheron & Co., booksellers, of London, to act as agents of this society for the purchase of books, apparatus, etc., as might be required. This arrangement has now continued for nearly a year, and the trustees congratulate themselves upon the success of their selection, which is one that should meet with the warmest approval of the Society.

The Librarian has prepared, and will submit for your examination, a detailed catalogue of all our books now on hand, but it will not be out of place for me here to state briefly what has been done in this department during the past year. By purchase as well as by donation the number of our volumes has been largely increased. At the beginning of this year we had only 11 books; now our cases contain 134 bound volumes, besides 10 others awaiting the binders hands. We now possess complete sets of the *Quarterly Journal of Microscopical Science* and the *Monthly Microscopical Journal*, numbering together 36 volumes, the pages of which may be said to contain nearly all that has appeared of value in our language on the science of microscopy during the last twenty-three years. These works, which no microscopical society can afford to be without, were obtained by purchase, as well as sets of the *Popular Science Review* and the *Intellectual Observer*.

When this year began our society was in receipt of no scientific perodicals, the publication of the *Lens*, which was subscribed for nearly three years ago, having soon afterward ceased.

We are now subscribers to and receive regularly the following journals: *Quarterly Journal of Microscopical Science*, *Monthly Microscopical Journal*, *Journal of the Quekett Club*, *Cincinnati Medical News*, *Nature*, *World of Science*, *American Naturalist*, *Grevillia*, and the *Regensburg Flora*.

DONATIONS TO THE SOCIETY.

Among our principal donations and those which by their importance deserve to be called to your attention on this occasion, I would state that we have received from a member of this Society, but one who does not wish his name mentioned in this connection, those valuble works, "Stephen's Entomology" and "Harvey's Marine Algae of North America." Dr. J. N. Eckel, of this city, presented us last Spring with the two volumes of "Ehrenberg's Mikro-Geologie," and those who have wandered through its pages and verified the correctness of the plates by direct observation of specimens with the microscope, as some of us have done, can testify to its great value, and what an interesting and important addition to our library it is likely to prove.

From our honorary member, Dr. Woodward, we received a set of twenty-eight of his exquisite micro-photographs, principally of diatoms and histological specimens.

In addition to these donations important alike by heir value and rarity, we have received from a member the special gift of $50, to be expended in the purchase of books.

Our cabinet of slides has been largely increased by donations as well as by purchases. Our case now contains 429 slides, the additions made during the past year having been just 200.

Our valued corresponding member, Capt. J. H. Mortimer, sent us last summer a most beautiful slide of the letters "S. F. M. S.," composed of various diatoms mounted by Cole, as a monogram. This slide is a rare specimen of the skill of the artist, besides being a testimonial of thoughtfulness on the part of one who seems to take real pleasure in showing that he has our interests at heart, whenever opportunity offers. From Mr. W. H. Walmsley, of Philadelphia, we received, after his visit here, a set of twelve slides beautifully mounted by himself.

From our Vice President, Mr. Hyde, we have received a slide of sixty typical specimens of Foraminifera from various localities.

Mr. Joseph Beck of London sent us a few months ago a series of twelve standard preparations for use with the micro-spectroscope; and from Mons. A. Nachet, of Paris, another corresponding member, we are promised six specimens of the handwork of a French artist, which, as he writes me, are objects of great curiosity, besides being exceedingly rare. We may look for them about the first of March.

From Mr. Melville Attwood we have received what I trust will only prove the beginning of an extensive series of slides of the wall rocks of some of the more important gold bearing veins of California.

Mr. J. P. Moore has already given us sixteen specimens of California wood sections, beautifully mounted by himself, and promises at no late date to complete the series by slides of all the known woods of this Coast. May he never tire of well-doing in this direction, for if he lives to carry out these good intentions this collection will be unique and of the highest value.

Other members have given slides from time to time and added generously to the various departments; but I have thought the above worthy of special mention on this occasion, and the last two are particulary important, as they seem likely to lead to something definite, and so far as they go, embody the results of scientific research on those part of the gentlemen who presented them.

NEW SLIDES.

In way of purchases of slides, the Trustees ordered from London, a few months ago, as complete a set as could be obtained of animal parasites and acari, that they may serve as typical specimens, should occasion require. This was done after the experience of last summer, when so much discussion arose over what certainly appeared very much like a sugar mite, but which was said to have been brought up from a depth of more than 3000 fathoms during the *Tuscarora* surveying expedition. Thirty-three of these slides have already come to hand, and we expect about as many more to complete the order.

Our general cabinet has received several important additions, and now contains a good deal of valuable material, varied in its nature, it is true, yet in some departments affording much that is useful and interesting.

From Mr. William J. Fisher we received a series of the deep-sea soundings made by the U. S. S. S. *Tuscarora* in 1873. * * Twenty-three of these were taken from between Cape Flattery and the Aleutian Islands, at depths varying from 55 to 2534 fathoms. Twenty-six were taken between San Diego and Honolulu, at depths varying from 203 to 3053 fathoms. It is to be hoped that before long some member will find time as well as inclination to work up those specimens and give the results to the world. In this department, as well as in others we certainly have material enough to occupy ourselves for years to come, and I can assure you the opportunities we enjoy are greatly envied by the microscopists of older communities.

From Captain Mortimer we received a package of twelve vials of clean bodines, containing diatoms from most varied localities such as the Eastern States, Central America, the east and west coasts of South America, the West Indies, the west coast of Africa and England. Many members have supplied themselves with slides of these diatoms, and others have been mounted and sent away for exchange.

From Mr. Arthur Mead Edwards we have received twenty-seven specimens of diatomaceous earth, principally from the New England States, slides of which have been mounted and placed in the cabinet. This is an enumeration of the most interesting additions that have been made to the general cabinet during the past year.

This Society has loaned instruments to several of its members, and has ordered for use in its rooms a new Nachet microscope, which it is expected will arrive about March 1st. This instrument is a very much less expensive one than the large Beck now in such constant use, and that it will form a valuable aid to us at our semi-monthly meetings, I have no doubt. We have also supplied ourselves with a small air pump, for mounting, and two Fiddian lamps.

KINNE'S SELF-CENTERING TURN-TABLE.

The Society, as well as many individual members, has procured one of Mr. Kinne's self-centering turn-tables. This little instrument, which has already proved a great convenience, is the invention of Mr. Kinne, and resembles in principle the "Cox table," though the idea originated with him and was partially carried into execution several months before Mr. Cox published a description of his. The main difference between the two consists in the manner by which the rectangular clutches are moved and retained in position. In the case of ours, this is done by means of a lever and spiral spring; in the other, by a screw. A few months ago the trustees ordered a Tolles' 4 system 1-10th immersion objective, feeling that this Society should not be without so famous a glass made by one of our own countrymen. In addition, many of us were desirous of ascertaining for ourselves the capacity of this objective for resolving the more difficult diatoms which had hitherto resisted all our efforts. Up to the present time, however, we have been unable to achieve all we had hoped for, and in this direction are yet far behind those Eastern amateurs who "go through" the Moller probe platte in fifteen minutes. It is true, that since the receipt of this glass none of us have seriously undertaken the task of resolving the last three diatoms on this plate, as until quite recently we had only a broken slide, one entirely unfit for the purpose. Now, however, the Society possesses a large stock of these test plates, and any member interested in this class of investigation, which may not improperly be called microscopic gymnastics, can have on opportunity afforded him of so doing. Without, however, committing myself on what we may be able to accomplish in the way of resolving diatoms, I feel quite warranted in saying, from what we have accomplished, that it is a wonderful glass, and eventually in our hands will do all that is claimed for it.

Within the period under review papers on the following subjects have been received and read at our meetings:

OBLIGATIONS TO DR. HARKNESS.

From Dr. H. W. Harkness, a most interesting and valuable paper upon the "Potato Rot," which found its way into many publications a short time after it was read. This communication was the result of the Doctor's attention having been called to the sudden blight which destroyed a large field of potatoes in a single night near the Alms House. This paper was accompanied by slides, temporarily mounted for the purpose, which showed in sections the diseased leaf. The cells were shown to be destitute of chlorophy, and the mycelium, imbedded in the centre of the leaf, traversing between these cells, but generally not penetrating them. Immediately on coming into contact with the air, each filiment of the mycelium branches, and terminates in an egg-shaped sporaegium. Attention was also called to another fungus, different from the first, described as *Peronospora Infestous*, but which he thought had in all probability played no inconsiderable part in the damage created. No mere abstract will do justice to the real importance of this paper, and what I have said can only be regarded as recalling it to your memory.

In addition to this paper, Dr. Harkness has delivered during the year several lectures of a more elementary character, always instructive to his hearers, however, and of a nature to keep alive any waning interest in the microscope. In this connection I feel it due to this gentleman to express what I am sure is the feeling of the Society—that we all consider ourselves under great obligations to him for the interest he has continually shown in our welfare by giving us freely, and at all times, his advice and the benefit of his superior attainments.

From Mr. H. G. Hanks we have received three papers, one on "Polarized Light," another on "Micro-Mineralogy," and the third a report upon a coccus sent to this Society by Mr. Henry Edwards, who found it in large numbers, last Spring, upon the maezanita in the vicinity of Grass Valley, Nevada county. He classed it with the cochineal insect, of *coccus cacti*, and submitted it for investigation to ascertain the amount of dye it contained, thinking it might possibly be collected in sufficient quantities to prove a valuable article for export. The number of insects experimented upon, however, was too few to afford definite results, and we shall have to await the crop of another season before learning anything positive on this subject.

The paper on Micro-Mineralogy gave a description of the methods employed for the preparation and examination of minerals under low powers with the microscope. The details of the necessary manipulation were given so clearly that the student in determinative mineralogy will have no difficulty in following them whenever he desires to bring the microscope to his aid.

INTERESTING PAPERS BY MR. KINNE.

From Mr. Kinne we had two interesting papers, in one of which, entitled "How a Fly Walks," he called attention to a selection in McGuffey's Reader, and used in our public schools, where it was stated that a fly sustains itself on a ceiling, or elsewhere, in an inverted position, by means of suckers on its feet, from beneath which the air is exhausted at will. This was a curious example of how a fanciful theory, which appeals strongly to the imagination, may take hold of the public mind and be propagated year after year without its contradiction, and even complete disproval, producing any apparent effect. It was as far back as 1816 when Blackwell demonstrated by direct experiment that it is not by atmospheric pressure that a fly is sustained when walking with its back downward, and since then the microscope has repeatedly shown how it does walk in this position. The matter was deemed of sufficient importance to be made the subject of a communication by the Society to the publishers of the McGuffey series, in order, as Mr. Kinne justly observes, "that James, William, and Harriet of to-day may not be confused with untruths taught them to be unlearned in later years."

The other paper by this gentleman, entitled "Worms (so-called) in Teeth," embodied the results of an investigation into what purported to be a new method of treatment for the toothache by inhaling, or at least taking into the mouth the smoke of some burning drug through an inverted funnel. It was pretended that after each attempt at cure, the patient invariably found adhering to the sides of the funnel small worm-like animals said to have dropped out of teeth, and to have been the primal cause of all the pain and trouble. Mr. Kinne showed conclusively that these worm-like bodies were vegetable in their origin, and undoubtedly came from the burning substance, and not from the mouth of the patient, as claimed.

RUSTY GOLD AND MICRO-LITHOLOGY.

From Mr. Melville Attwood we have received two papers—one entitled "Rusty Gold," and the other "Micro-Lithology." Both of these papers were accompanied by illustrative slides mentioned elsewhere. In the paper on "Rusty Gold," Mr. Attwood took the ground, and very justly I think, that the general complaint made by miners, who fail to secure by the ordinary process of amalgamation as much gold as they think their rock should yield, and claim that the difficulty is owing to the gold being covered with a thin film of oxide of iron, is false, and that really there is no such thing as rusty gold in the common acceptation of the term. He further stated that when much pyritic matter was present, fine stamping was absolutely necessary; and when good results failed to be obtained, it was owing far more to the poverty of the quartz than to any inherent difficulty of causing what gold there was to combine with the quicksilver. I think these conclusions can be substantiated by the experience of most miners on this coast at the present time.

The paper on "Micro-Lithology" related particularly to the structure and composition of the wall rocks of some of the more noted gold-bearing veins of California, and it is to be hoped that it will prove but the introduction to a series of papers on this interesting subject.

From Mr. Henry Edwards we had one paper on a new species of Gordius, found at Colusa, California; from Mr. W. N. Lockington, a description of the "Artemia Utahensis," a new crustacean found in the Great Salt Lake; and from Messrs. Edwards and Lockington a report upon a specimen presented by Mr. Wm. J. Fisher, and said to have been brought up from a great depth by one of the casts during the *Tuscarora* surveying expedition.

From our corresponding members we have received several welcome communications; but I will allude particularly to some notes sent us by Mr. A. F. Dod, of Memphis, Tennessee, upon Tolles' new 1-10 objective; and from Mr. J. Edwards Smith, of Ashtabula, Ohio, a series of interesting letters upon the method of illumination he employs to resolve the more difficult lined tests, particularly the last three diatoms upon the Moller probe platte, which have hitherto baffled every member of our Society who has undertaken their resolution. I would particularly recommend the careful perusal of these letters to any one among us who desires either to resolve those diatoms, or, having an objective on the possession of which he particularly prides himself, desires to test its greatest capacity in this direction. From this gentleman we also received an interesting communication, in which he discussed the possibility of medium power objectives being made to do the work usually assigned to the highest powers, and also whether wide-angled glasses would do the work generally assigned to those of more moderate angles. In both these propositions Mr. Edwards makes out a very strong case in the affirmative.

SUCCESS OF THE SOCIETY.

This Society, which was the Pioneer Microscopical Society of the Pacific Coast, has now to congratulate itself upon the birth of two similar institutions; both far distant from us, it is true, yet they are still our nearest neighbors. I say we have to congratulate ourselves upon this, for, if it has not been directly under our auspices that these two Societies have been organized, it is certainly owing to the influence that we have exercised and the interest our Society has created in the microscope. One of these is at Denver, Colorado, where it was established a few months since by Professor Schirmer, of the United States Mint; who, after a visit to San Francisco, and attending some of our meetings, returned home, inspired by what he saw here to organize a Society in his own neighborhood. The other, "The Royal Microscopical Society of Hawaii," owes its existence in a great measure to the efforts and zeal of our honorary member, Dr. Harkness, to whom, as a Society, we are so much indebted; and who, last Summer, while visiting Honolulu, infused a portion of his enthusiasm into some of the residents and induced them to establish a Society there.

THE OBJECTS OF THE SOCIETY.

A very important question has frequently been broached by some of the members of this Society, and that is, the propriety of publishing our proceedings at regular intervals. This is a matter to which I have given a good deal of thought, and was strongly prepossessed in favor of the idea; but the more I reflected upon what is proposed, the more convinced I am that the proper time has not yet come for us to assume the responsibility of submitting periodically our work to the world at large, under the impression that we will be contributing matter really worthy of publication because it appears in print. Many of us are simply "dwellers on the threshold" of microscopy, and although, as stated elsewhere, we have forty-one active members, the amount of original investigation performed by this Society during the past year has not been at all in proportion to our numbers. I am not aware that this is owing to any diminution of zeal on the part of the members themselves, for they all profess now as great an interest in the success and welfare of the Society as they did during the first few months of its existence, and that these expressions of good will are not merely confined to words is conclusively shown by the Treasurer's books and the great increase in our material prosperity during the past year.

That we have not done more real scientific work is owing mainly, I think, to the well-known and often commented-upon-fact that in California there is as yet no leisure class, and the youth born and educated here are still too young to come to the front and take their part in scientific matters. Pure science and the acquisition of knowledge for its own sake, does not pay from a money standpoint; and in a new country like this if we have a Society at all it is more than likely that a large majority of its members really cannot spare the time from their more important pursuits to perfect themselves in the elementary studies necessary to pursue original investigation, and thus add to the store of human knowledge. That these conditions will continue for several years to come I have no reason to doubt, and it will be well for us to recognize their existence and appreciate the causes which have led to them, rather than to express dissatisfaction at what we cannot help, but which we can easily turn to our advantage in the future by building this Society upon a secure and lasting basis, and then leave to those who come after us the responsibility of extending its sphere of usefulness beyond the present circumscribed limits. At present I conceive the object of this Society to be two fold: First—To furnish to its members entertainment as well as instruction, and so long as this is done the same interest will continue that is now so clearly manifested. Secondly—That it should furnish to individuals the means of pursuing any branch of scientific inquiry, within the scope of this Society, whether they be members or not. It frequently happens that persons would like to avail themselves of the advantages afforded by our rooms and apparatus, but are unable to join us as regular members, owing to the high initiation fee and monthly dues. I would therefore suggest in this connection that whenever they deem it advisable the Trustees shall be empowered to extend the privliges of the rooms to persons desirous of pursuing special investigations, and that whenever considered worthy, the results should be published by the Society, and under its auspices. By so doing I think the usefulness of the Society will be much increased, and at an expense to ourselves entirely incommensurate with the good we shall do. At present, as you all well know, the *Alta* newspaper kindly reports all of our proceedings, and publishes them in full after every meeting. This report, which gives an abstract of all papers read and subjects discussed, finds its way into many periodicals, and these show for all it pretends to be. When we have matter in greater quantity and of a more advanced scientific interest, it can be issued from time to time as occasion requires, in form of monographs, accompanied by such other material as may be deemed worthy. Any other course, it seems to me, would, unless more members join the working force, expose us to the imputation of attaching a greater degree of importance to our crude efforts than they really deserve.

This evening brings to a close my term of office, but before I resign the chair which I have filled during the past year with so much pleasure to myself, I wish, gentlemen, to tender you my thanks for the invariable courtesy I have received at your hands. My thanks, as well as those of the Society, are also due to my associates on the board of trustees for the faithfulness they have displayed in the discharge of their various duties.

WILLILM ASHBURNER.

PHOTOGRAPHS — Showing Prof. Smith's arrangement of lamp; bull's eye condensor; mirror and stand, in *situ*, for work with oblique light; price by mail 30 cents.

Also, Photograph, showing "Army Hospital" stand, and Zentmayer's new stage; price 30 cents. Mailed to any address on receipt of price. Both photographs to one address 50 cents. STEPHEN SABIN,
Lock box No. 3, Ashtabula, Ohio.

Correspondence.

PARIS, January 25, 1876.

J. A. THACKER, *Editor Medical News:*

DEAR SIR: Half a century ago Paris enjoyed the well deserved reputation of being the great medical and scientific centre of the world. Today it may be said that opinions vary, there is a disposition to give to Germany and Britain what may in truth belong still to France. It is a question, however, for the student alone to decide. If his mind is bent on surgery, he can find a delightful harvest in either London, Paris, or Vienna—best perhaps in Vienna; but he will discover that his field of study will grow smaller as he makes the rounds of these vast institutions, and he will be forced, in self-defence, to fall upon some fit subject, and wrestle with it solely and singly. The same may be said to the student of general and special medicine. He cannot fail to find in the hospitals of these great centers the utmost satisfaction in the way of *cases*. He can fill his mind, and a score of note books in less than a year with these phenomenal histories, and return home triumphantly to practice empiricism on a grander scale. If the American student, however, is seeking a knowledge of the ground principles of medicine on which rests the superstructure of true science, let him not stop at Glasgow, or Edinburgh, or even London, while Paris is so near. In the department of physiology, Paris, perhaps, surpasses the world. M. Claude Bernard, Professor in the College de France, is now ripe in years, though not less active in his work. M. M. Vulpian, Beclard, Marey, Ranvier, etc., follow the great leader with vigor and execution. M. Brown-Sequard, though professedly a resident of New York, spends most of his time here, and his presence at the Academie de Medicine is one that a king might envy. This rehearsal of the physiological lore of Paris offers no word of disparagement to the great luminaries of the north, who, like stars of the first magnitude, disperse their rays wherever light can penetrate, crouch to none, and respect only the sceptred arm of science. I refer to Prof. Ludwig, of Leipsig, as perhaps standing first among them.

M. Bernard is now giving his usual course on experimental physiology at the College de France, where he attracts his little army of admirers twice a week, which, with one or two exceptions, might be termed an audience of savants. I attended one of his lectures this morning, and though I have always been intensely interested in his previous efforts, it seemed that fortune favored his skill to-day, and gave him an unusual deftness of manipulation along with a quick and ready tongue, so that we were held, rapt, for nearly two hours. The long lecture table was covered with curious and complex instruments, prominent among which were the cardiegraph of Marey, electro-thermometers, microscopes, rack for securing animals for vivisection, and apparatus for producing artificial respiration. In view were also birds in cages, two dogs tied, several jars of frogs, and three or four rabbits creeping around unrestrained. When I first saw a display of this kind by M. Bernard, I supposed that the demand for material would soon become great. But judge my surprise to see the same brutes brought in each succeeding lecture for a repetition of the ordeal. On a plate were exposed frogs recovering from the effects of woorara, having been poisoned nearly three weeks before ; and others yet under its influence, motionless, and apparently dead, but which the venerable professor explained still preserved the action of the heart, circulation, and nutrition, and would recover in due time. A rabbit was hopping around with an india rubber cord around one of the posterior extremities. It had received in the corresponding foot at the last lecture a large dose of woorara, to which it succumbed in less than six minutes. The cord was applied, and in a short time it was on its feet. To-day the cord was removed, when it again sunk into complete paralysis, but recovered spontaneously while yet under our eyes. The dog does not recover so easily from the effects of woorara. The complete paralysis of motion affects also the respiratory muscles, and necessitates the exercise of artificial respiration, which with Bernard is carried on for hours together by the aid of a hydraulic bellows, simulating, in volume of air and time, the natural action of the chest A curved tube introduced into the trachea of the dog, for instance, and secured with cords tied around the jaws, allows the air to enter through its calibre, and to escape between it and the trachea. Birds succumb rapidly to this poison because artificial respiration is not practicable.

M. Bernard passed rapidly through a series of experiments on the different animals, to show the relative effects of chloroform, woorara, and sulphur cyanide of potassium, concluding the lecture with a striking experiment upon a curarized dog, showing the passage of the solution of the prussiate of potash from the left ex-jugular vein to the right. Introducing the solution into the left vein, and drawing blood from the right, it was found that that drawn as early as four seconds after the injection contained traces of the salt. This experiment is an old one, of course, and has been repeated many times, but for all that one cannot help remarking in it the skill of the great vivisector.

Profs. Dolbean, Sappey, Robin, and Wurtz are in the midst of their courses at the Ecole de Medecin. Prof. Charcot has just terminated an exceedingly interesting clinical course on nervous affections at the Hospital de la Saltpetriere ; and Mauriac will discontinue his " clinique " on venereal diseases at the Hospital du Midi next Saturday. At present M.

Richet has a "service" at the Hotel Dieu; Dolbean at the Beaujon; Broca at the Cliniques; and Gossili at the Charitie.

M. Behier commenced his "service" at the Hotel Dieu a few days ago. What a curious compound M. Behier is. With his reputation made, and swarms of students at his heels, he is independent and indifferent. He marches into the ward and taps the bell with an air of great pomposity, notwithstanding his age, and though full of jokes, he is impatient, and even irritable. I saw him slap a student in the face several times for being stupid in making out the diagnosis in a case. All in all M. Behier is a riddle.

R. B. D.

1819 THE GREAT MEDICAL WINDMILL. 1876

The Ohio Medical College, the "oldest and best" institution of medical learning this side of the Himalayas, is again at its ancient work of "raising the wind." Wind is its prime motive power; wind is what started it; wind has supported it, and wind will blow it down to the latest ages of posterity. The first questions which enter the minds of the Faculty when a candidate for a vacant chair is before them are, "Is he a windmill? Has he a bellows? If so, he is one of us. Without wind, what is he? Without wind what are we? Idle hulks, we flap our lifeless sails and sink by reason of our own specific gravity. Flatus with them is fame; gas guarantees greatness. Why "climb the steep where fame's proud temple shines afar," when you can be blown up to it? Why waste the midnight oil, and eat fish to become wise, when decent slumber and a diet of beans will produce the same ultimate result? Take the college catalogue; you have first a magnificent view of a block of buildings, about one-tenth of which is occupied by the college, and that tenth is chiefly the upper and inaccessible portions which otherwise would be used by other vermin. We have besides in beautiful perspective scenes from the numerous laboratories, representing an impossible number of diligent young men engaged over various infernal machines, which latter must be understood to be "magnificent apparatus." It is unfortunate that the catalogue contains no cut of the wind factory. We suppose, however, this is holy ground from which the students of the school are carefully excluded.

There is another great force connected with the school in the shape of the *Clinic*, a small journal translated from the German, and published "trans Rhenum," by Dr. Whittaker, of squirt-gun notoriety. The *Clinic* is well named, for it is "sickly" from beginning to end. Its original matter consists mainly of discussions by Drs. Bartholow and Whittaker; Duchenne constantly supporting the statements of the former gentleman, and Desnos those of the latter. The most remarkable thing in this connection is this, that while Duchenne and Desnos are continually corroborating views enunciated by Drs. B. and W., we have yet to find the names of Drs. B. and W. in the works of the Drs. D. or D. May we inquire, merely for information, whether Duchenne or Romberg ever credited Dr. Bartholow with having made the first description of progressive locomotor ataxy? The *Clinic* keeps its readers as strictly posted regarding the movements of each man connected with the Ohio school as the London journals regarding the movements of the Royal Family. Thus we learn that Prof. A. has a bad cold, or Professor B. has the colic and other interesting items of general news. We are weekly instructed that there is one college, and the *Clinic* is its trumpet. The Faculty of the college "work" on the newspapers.

The way to get into the good graces of the newspapers is to pay for your "puffs." We have no doubt the Ohio "folks" are honest enough to do this. Reporters and editors are prone to the weaknesses of the sex, and a timely X, or a prescription in certain cases not to be mentioned, will always do good work.

There is still another leverage for the "oldest and best school," *i. e.* the "Academy of Medicine." It is the "High School" of the Ohio Common School Medical College. When you have graduated from the college you join the academy, and again listen to the prating and braying of the dear sages who in former years taught your youthful steps, etc.; Dr. Reamy reads a paper; Dr. Palmer says "O. K."; Dr. Bartholow says "Ipse dixit"; Dr. Whittaker works off a treatise on the same subject, but winds up by agreeing with Dr. Reamy; Dr. Longworth tells what he heard when he was in Europe, but thinks Reamy "knows it;" Dr. Nickles don't say anything because he doesn't know anything to say. If the matter relates distantly to surgery, Drs. Conner and Dawson vigorously support Dr. Reamy; if it does not relate to surgery, they have heard it said that such a state of things existed; that is to say, it is exactly as Dr. R. has delineated.

Sometimes Dr. Muscroft (who is not a Professor in the Ohio School) disagrees with one of the clique, but the clique is easy with Dr. M., for they consider him in his dotage. We learn from the *Commercial* of the 22nd of February, that a new "bellows" has been added to the spouters of this college. His name is T. L. Brown; he is assistant demonstrator of Anatomy; he is an "eccentric genius." He worked in the Wells' Type Foundry, which makes him at once a typical young man. He worked in the foundry during the day, exhibited a telescope for five cents a peep in the evening, and "graduated with honor from the Ohio Medical College." We should be grateful that there is in this large city, where there are so many struggling young men, at least one institution where a man may get his diploma on such easy terms. Ho! all ye clod hoppers, and ye that have no time (nor brains either for that matter), come ye, to the college, yea, come, buy M. D.'s and diplomas without lectures, or any other particular requirements that need bother you, if you are "eccentric geniuses."

Book Notices.

EXTRA UTERINE PREGNANCY: Its Causes, Species, Pathological Anatomy, Clinical History, Diagnosis, Prognosis, and Treatment, By JOHN S. PARRY, M. D., Obstetrician to the Philadelphia Hospital, etc. 8vo, pp. 272. Philadelphia: HENRY C. LEA. Cincinnati: R. CLARKE & Co., 1876.

This will be found a highly interesting work—giving much information in regard to a novel abnormal condition sometimes occurring. The author states in his preface that although extra uterine pregnancy has attracted a great deal of attention, and the serial literature of our profession is rich in the records of individual experience, the natural history of the accident is not generally understood, while there is much difference of opinion in regard to matters of treatment. The personal experience of the author having taught him these facts, it occurred to him that the examination of a large number of recorded cases of misplaced pregnancy might lead to valuable results. He accordingly collected five-hundred cases from various sources, and this work is based upon an analysis of these. The results of this investigation are now presented to the profession, with the hope that they may lead to more certainty in the diagnosis and treatment of this accident.

INHALATION IN THE TREATMENT OF DISEASE: Its Therapeutics and Practice. A Treatise on the Inhalation of Gases, Vapors, Fumes, Compressed and Rarefied Air, Nebulized Fluids, and Powders. By J. SOLIS COHEN, M. D. Second edition, revised and enlarged, with many new illustrations. 12mo, pp. 392. Philadelphia: LINDSAY and BLAKISTON. Cincinnati: R. CLARKE & Co., 1876.

Although inhalation as a therapeutic remedy has been employed in practice many years, the ancient Greeks and Romans using it, yet within a few years it has become in vogue much more than formerly. It is now much more efficient than it used to be in consequence of the highly improved apparatus for its performance.

"As has again and again been proven by actual experiment on the lower animals, and on man, the mucous membrane of the respiratory organs has a much greater capacity for absorption than that of the stomach, than which it is much more delicate; and for articles not desirable to be exposed to the solvent principle of the gastric juice, inhalation is at least as advantageous a mode, in many instances, for the administration of appropriate remedies, as the skin or connective tissue. The material inhaled comes directly in close juxtaposition to the blood while in its most vital state, and is thus more promptly and more thoroughly absorbed into the tide of the circulation than when it traverses part of the venous circuit before exposure to the inspiratory effort. It is often advantageous, too, that nothing shall interfere directly with the digestive functions."

The work before us contains full information upon the subject of inhalations, descriptions of the best and most approved apparatus, etc., and will be found valuable to the profession.

Editorial.

CINCINNATI COLLEGE OF MEDICINE AND SURGERY.—The Commencement Exercises of this institution took place Thursday evening, February the 17th., in Pike's Opera House. The house was crowded to excess by the many friends of the young gentlemen, who received their degree, and of the institution. The assembly was the largest ever collected together on a similar occasion in Cincinnati. All enjoyed themselves and seemed to "feel that it was good for them to be there." Twenty-seven good-looking men were inducted into the medical profession; and from their intelligent appearance we have no doubt every one of them will become a bright and shining light in the high and noble calling which he has chosen for himself.

At 8 o'clock the Faculty, together with the speakers, filed in on the stage, and the young gentlemen of the graduating class marched in procession to the front rows of seats in the parquette, which had been reserved for them. After music, Dr. D. D. Bramble, Dean of the Faculty, introduced Rev. J. Y. Boice, who asked the divine blessing for the Faculty and the young gentlemen about to take upon themselves the responsibilities of a great profession.

After the opening of the exercises, the Dean, Professor Bramble, in some brief remarks, mentioned that the school was in a very prosperous condition. During the present session, he said, nearly one hundred students were in daily attendance upon the lectures. The college was organized in 1851, and from that time to the present its sessions have been regularly held without an intermission. Of course there have been troublous times, when the number of students was not great, as during the late war, and at other sessions when there was a want of general prosperity; but still, at no time was it necessary to close the doors, as was the case with many institutions of the kind. During our recent "unpleasantness," which resulted in maintaining the union, tne graduates of the school were found in the armies of both of the great contending parties, and thousands of sick, wounded, and dying soldiers, away from family and friends, were made the recipients of their skill.

The alumni of the school, he continued to say, were to be found in every State of the Union, and he felt proud in the fact that very many held high positions in the profession. Of course very many had never attained to eminence, for that belongs to the few, but they were probably none the less useful on that account. He who is daily employing his talents and skill in curing disease, relieving distress, and assuaging pain, is engaged in a good work, and though he may never bring upon himself the applause of the world, he is a useful man, and the world is better for his having lived in it.

A number of candidates for graduation, he regretted to say, had failed to pass such a satisfactory examination as to entitle them to graduate. This was a source of pain to him, for it was difficult to suppress the sympathies in such cases, but he felt that the trustees and faculty, in thus holding back their diploma, were moved by no other object than that those who were endorsed by them should be competent to practice their high calling.

Death had visited the class during the session, and had carried away one of the students. Mr. Thos. B. Evens, of Indiana, about the middle of the session, fell a prey to the epidemic which was now scourging the city. He was a gentlemen much beloved by his fellow-students, and was regarded by the faculty as a young man of much promise. All mourn his death.

Dr. Bramble spoke in high terms of the ability and scholarship of the present class, not, however, for the purpose of drawing a distinction between this and former classes, but to show that the reputation of the college was keeping pace with the requirements of the age. One of the Faculty, Dr. Miles, had been honored by the Obstetrical Society of London with a membership, a distinguished honor conferred upon but few persons in this country. A member of the class, Mr. W. A. Rothacker, after a very critical examination, was appointed a resident physician of Cincinnati Hospital. The future prospects of the college were extremely flattering.

In conclusion, he stated that the College building, a new and substantial structure, second to no other of the kind in the country, was owned by the faculty, and there were no debts hanging over it. This was a most important matter in the prosperity of a medical school, for many a promising one has been swept away by its indebtedness. There was nothing of the kind, he felt most happy to say, to threaten the prosperity of the Cincinnati College of Medicine and Surgery.

At the conclusion of the Dean's remarks, the degree of M. D. was conferred on the following gentlemen by the President of the Board of

Trustees, Rev. S. F. Hoyt, D. D., editor of the *Western Christian Advocate :*

C. C. Amick, Indiana; Henry Ader, Indiana; J. T. Bowman, Kentucky; D. J. Ballard, Indiana; P. N. Blackerby, Kentucky; F. M. Courtney, Louisiana; L. L. Crawford, Ohio; J. W. Caldwell, Iowa; J. B. Davis, Kentucky; L. M. Denman, Ohio; G. W. Denny, Kentucky; J. B. Green, Pennsylvania; E. M. Harp, Georgia; P. Hermann, Pennsylvania; J. F. Harshbarger, Ohio; R. B. Lancaster, Kentucky; A. H. Peebles, Pennsylvania; J. G. Reed, Ohio; M. E. Russell, New York; W. B. Robinson, Kentucky; G. J. Rheese, Pennsylvania; E. K. Shelton, Iowa; W. M. Tuller, Ohio; R. B. Williamson, Canada; W. B. Walker, Pennsylvania; C. M. Wilson, Pennsylvania; J. I. Williams, New York.

Professor C. R. Stuntz was announced as the valedictorian. He chose for his subject "Atmospheric Air in its Normal Condition," and asked the attention of the audience to some chemical conditions to be met in order to purify it and maintain it in a normal condition in crowded manufacturing cities. By a series of experiments, the Professor demonstrated the composition of the atmosphere, removing by his apparatus the component parts from each other. After exhausting the subject in its scientific sense, the Professor produced rubber bags containing air gathered from different localities in this city. One contained air from a cess-pool; another, air collected from the mouth of a flue; and a third, the effusion of the new patent sewerage system—the breath of the Eggleston avenue sewer. By means of chemical reaction these gas-bags were made to give forth wonderful results. It was demonstrated that, besides oxygen, nitrogen, carbonic acid, and aqueous vapor—the constituents of natural air—the air of Cincinnati contained carbonic acid in more than usual quantity, muriatic acid, ammonia, sulphurous acid, hydrosulphuric acid, carbonic oxide, phosphuretted hydrogen, marsh gas, olefiant gas, and others. These demonstrations were loudly applauded. Prof. Stuntz's address was very long, but was attentively listened to throughout.

The address to the graduates was delivered by the Rev. C. H. Payne, D. D., of St. Paul M. E. Church. So much time had been consumed by the previous exercises that Dr. Payne did not feel disposed to keep the audience waiting, so he said, especially in an air that had been demonstrated to contain so many terrible things. He addressed the young graduates in an eloquent manner, setting forth the necessity of active work with an end in view to obtain success. Force of character, vital force, firmness of purpose, tenacity in overcoming obstacles to reach a high aim, were what made the great men of the past, of the present, and would make those of the future. Among other shining examples of firmness, even stubbornness of purpose, he cited Gen. Grant. How he fought it out on one line until he crushed the rebellion; how he reached out and grasped the Presidency; how he took it by storm the second time; and how—perhaps—his dogged energy might make him get it a third term. Dr. Payne also exhorted the young men to strive for a higher standard of professional usefulness; to discard that which was worthless, and work by the new light that science is constantly shedding, not only upon the medical, but upon all the learned professions.

At the conclusion of Dr. Payne's address the benediction was pronounced by the Rev. J. Y. Boice.

The conclusion of Dr. Payne's address ended the exercises of the evening. We will here mention that the Cincinnati Orchestra, led by the very eminent musician, Michael Brand, furnished the music, which was of the highest order, and added much to the enjoyment of the occasion.

The following are their selections :

Overture—" Blanda "	Kalliwoda
Selections from Faust	Gounod
Transcription—German song	Voigt
" Wo Die Citronen Bluehn "	Strauss
Finale	Gungi

Diagnostic Acumen.—A queer incident occurred in the Queen City recently, demonstrating the diagnostic capacities of a couple of *savant* medical professors hailing from the I. X. L—XX—1819–1876 institution. It is generally admitted (in their opinion) that what is not known by the members of the faculty of the college having the above mystic letters and numerals as its coat of arms, in their several departments, is not worth knowing. The truth that they " know it all," as the boys say, was exemplified by a case which has been brought to our attention. A lady, fifty-five years of age, whose abdomen began a few months ago to assume abnormal proportions, called in a modest unassuming doctor to explain what was the matter. On examination he pronounced her affected with dropsy. Some friends, who very properly believe in calling in the most brilliant talent that can be had in all serious as well as not serious cases—the great embodiments of learning—advised the discharge of the physician of average lore and the employment of a brilliant or so of the faculty, of the I. X. L—XX—1819–1876, who " know it all." The advice was adopted ; the mediocre was discharged very much to his satisfaction, for the case yielded no filthy lucre ; and two of the aforesaid brilliants were called in to see the case. Of course they could not consistently confirm the diagnosis of any " ordinary " physician ; that would be highly undignified. Forsooth, the diagnosis must be their own, and must be different from the one of common genius. So at it they went and pronounced the " swelling " an ovarian tumor, and recommended its removal. A day was appointed for the operation. An incision was made—a gush of waters took place—a collapse of the abdominal walls followed to the normal standard—a search for the ovarian tumor or collapsed sac was made without success—the incision was closed—the patient is about threatening a suit for damages, etc.

Now no one is to blame in this case except the obstinacy of the swelling in persisting to be a dropsy instead of an ovarian tumor, when it had been diagnosed to be the latter by two brilliants of the I. X. L—XX—1819–1876 institution. It should be frowned upon.

We have not heard of the case having been reported in the *Clinic* under sensational head lines. Any time it should be we hope the editor will send us a copy.

Medical Journals.—We extract the following from an editorial on " American Medical Journalism " in the *Richmond and Louisville Medical Journal* of February :

" At the close of the late war there was not one medical journal published in the Southern States. Since then four have been established in New Orleans ; three of these have long since failed ; one only is in existence, and the proprietorship of this has passed from its editor into the hands of a mercantile house. Two journals have been published in Texas ; they are both dead. The *Savanah Journal* is also dead. So also is the journal published at Augusta, Ga. One of the Georgia journals has twice "suspended," though it is yet in existence. The *Memphis Journal* is no more. The Journal of Pharmacy, at Nashville, has just failed and retired. The *Nashville Medical and Surgical Journal* is, on the statement of its editor, not receiving money sufficient to pay the cost of publication. The *Clinical Record* of Virginia is dead. The *Baltimore Medical Journal* is extinct. So also is another medical journal organized there by Warren. Two journals have failed in St. Louis. The *American Practitioner*, recently issued at Louisville, has retired to its former home, Indianapolis, Ind., where it was formerly published under the title of the "Western Journal of Medicine." The *Louisville Medical Reporter* (published at Henderson, Ky.,) can scarcely be said to have ever lived. Like the untimely fruit of a woman, it was prematurely ushered into the world; gave one feeble, repulsive little gasp, and was quickly and mysteriously buried. The *Indiana Medical Journal* has been absorbed by one of the Cincinnati Medical issues. The *Chicago Medical Examiner* has suffered a like fate. One of the Pacific medical journals has become extinct. The *Leavenworth Medical Journal* has expired; the *Kansas Medical Journal* has just given up the ghost.

"This record shows that at least twenty medical journals, originated and published in the South and West since the war, have, after a life of painful disaster, finally succumbed."

DIAGNOSIS OF CHANCRE—Mr. Jonathan Hutchinson, in a lecture upon "Soft Chancres in their relation to Syphilis" (*Lancet*), gives the following sound advice: "Let me here insist upon the extreme importance to the reputation of the practitioner of the rule never to give an opinion as to the nature of a chancre until the incubation period is over. Patients will come to you with sores contracted a few days or a week or two before, and will expect you to be able to tell them whether or not they are likely to have syphilis. Now there is never any thing in the conditions which are either present or absent which will justify the most practiced observer in giving any opinion at such a stage. It is very rare indeed that an infecting sore acquires any induration within three weeks of the date of contagion, and more commonly it is a month or five weeks. Until such induration takes place nobody can tell whether it is coming or not. Very various indeed are the conditions which may have been present during the preceding period. Your patient may have had a soft sore, which may have been severely inflamed, or even phagedenic; he may have had a bubo, and that bubo may have suppurated; or he may have had no sore at all and no bubo. Let your rule be, I repeat, to give to your patient no opinion whatever as to his chance of escape until he can assure you that it is one month since his last exposure to risk. It is a matter of constant experience to be told by patients that the medical man first consulted assured them that the sore was only a soft one and would not infect, and under such circumstances it is always very difficult to restore the patient's confidence in his adviser's knowledge. If the contagion of syphilis were always effected with the same care as to purity of the virus as is exercised in the case of selection of lymph for vaccination, it would not have been necessary to teach this doctrine of caution now. No one thinks of speaking as to the prospect of the success of vaccination during the first few days, nor would he be able to do so even so soon as that were it not that the vaccine vesicle is enabled to develop itself uncomplicated by other morbid processes. It is not so, however, with syphilis, and hence the variety of the results which we witness during the first two or three weeks after contagion.

WARBURG'S TINCTURE.—This antipyretic remedy, which has attained much celebrity, and the composition of which was kept secret, has just been made public in a paper by Prof. Maclean, of the Netley Medical School, published in the *Medical Times and Gazette* of November 13, 1875. "It will be seen," says Prof. Maclean, "that quinine is the most important ingredient in the formula, each ounce-bottle containing nine grains and a half of the alkaloid. Its presence has been detected by every chemist who has attempted its analysis, and never doubted by any medical man of experience who has used the tincture. Many will say, 'After all, this vaunted remedy is only quinine concealed in a farrago of inert substances for purposes of mystification.' To this objection my answer is: I have treated remittent fevers of every degree of severity, contracted in the jungles of the Deccan and Mysore, at the base of mountain ranges in India, on the Coromandel coast, in the pestilential highlands of the Northern Division of the Madras Presidency, on the malarial rivers of China, and in men brought to Netley Hospital from the swamps of the Gold Coast, and I affirm that I have never seen quinine, when given alone, act in the manner characteristic of this tincture. And, although I yield to no one in my high opinion of the inestimable value of quinine, I have never seen a single dose of it given alone, to the extent of nine grains and a half, suffice to arrest an exacerbation of remittent fever, much less prevent its recurrence; while nothing is more common than to see the same quantity of the alkaloid in Warburg's tincture bring about both results." The following is the formula for its preparation: Aloes (Socotr.,) one pound; rad. rhei (E. India), sem. angelicæ, confect. fect. damocratis (London Pharm., 1746), each four ounces; rad. helenii (s. enulæ) croci sativi, sem. fœnicul., cret. præparat (corrective), each two ounces; rad. gentianæ, rad. zedoariæ, pip. cubeb., myrrh. elect., camphor, bolet. laricis, P. officinalis, Boletus purgans or Larch agaric ("Formerly," says Pereira, "used as a drastic purgative, and still kept up by the herbalist"), each one ounce. The above ingredients are to be digested with five hundred ounces proof spirits in a water-bath for twelve hours; then expressed, and add ten ounces of bisulphate of quinine; the mixture to be replaced into the water bath till all quinine be dissolved. The liquor, when cool, is to be filtered, and is then fit for use. The mode of administering it is as follows: "One half ounce (half a bottle) is given alone, without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours the other half of the bottle is administered in the same way. Soon afterward, particularly in hot climates, profuse but seldom exhausting perspiration is produced. This has a strong aromatic odor, which I have often detected about the patient and his room on the following day. With this there is a rapid decline of temperature, immediate abatement of frontal headache—in a word, complete defervescence—and it seldom happens that a second bottle is required; if so, the dose must be repeated as above. In very adynamic cases, if the sweating threatens to prove exhausting, nourishment in the shape of beef-tea, with the addition of Liebig's extract, and some wine or brandy of good quality may be required."—*Amer. Jour. of the Med. Sciences.*

HYDRATE OF CHLORAL IN LABOR.—Dr. C. A. Prentiss, of Greenfield, Mo., contributes (*Amer. Journal of the Medical Sciences*) the following evidence in favor of chloral in parturition: "It is a grave error to expect that chloral will relieve all the pain of labor when administered in such doses as will at all times be safe. There is an amount of false pain accompanying labor which is very tormenting to patients and not in any degree to their advantage. To relieve this was my object in giving chloral in the first instance; but after trial in many cases I can report the following effects which I have observed: 1. A quiet and tranquil state of mind; 2. Abridgment of the duration and modification of the severity of each pain; 3. Pleasant and refreshing sleep in the interval of pain; 4. Relaxation of the os and consequent abridgment of the duration of labor. I have attended patients who were very nervous and excited by their forebodings of a serious termination, who in thirty minutes abandoned all such thoughts and indulged in brighter and better hopes. Chloral modifies the severity of the pains and limits their duration to the time the uterus is actually in contraction. Every practitioner has, no doubt, observed many cases in which the pain continues after the active contraction ceases and the os softens. This is what I have characterized as 'false pain.' I have frequently witnessed patients very much exhausted by the suffering in some cases of protracted labor refreshed and their strength restored by pleasant naps in the intervals of pain. I was called to attend a lady who had been in labor over twelve hours. The pains were frequent and active, and the os dilated to about one inch in diameter, very firm and rigid. The old midwife in attendance informed me that no progress had been made in the last six or eight hours. I began the administration of chloral at once, and attended very closely to the case. In about forty minutes the rigidity began to give way, and in one hour more labor was completed. This is only one case, to be sure, but to cite more would only be to repeat the history of this. The distressing after-pains are also modified, and may be further relieved by small doses of paregoric. My plan of giving the chloral is as follows: commence in the first stage with five grains every fifteen minutes until from twenty to thirty grains are taken, more to be given in four or six hours if labor continue and the remedy be indicated, but not to the extent of producing anæsthesia. This amount I have found to be sufficient to produce all the effects I deem desirable. Some practitioners have recommended its use to the extent of inducing anæsthesia; but this I consider unsafe, unnecessary, and injudicious."

Historic Notes on Electricity.—The attraction of light bodies by rubbed amber was the sum of the world's knowledge of electricity for more than 2,000 years. In 1600 Dr. Gilbert, physician to Queen Elizabeth, whose attention had been previously directed with great success to magnetism, vastly expanded the domain of electricity. He showed that not only amber, but various spars, gems, fossils, stones, glasses, and resins, exhibited when rubbed the same power as amber.

Robert Boyle (1675) proved that a suspended piece of rubbed amber, which attracted other bodies to itself, was in turn attracted by a body brought near it. He also observed the *light* of electricity, a diamond, with which he experimented, being found to emit light when rubbed in the dark.

Boyle imagined that the electrified body threw out an invisible, glutinous substance, which laid hold of light bodies, and, returning to the source from which it emanated, carried them along with it.

Otto von Guericke, Burgomaster of Magdeburg, contemporary of Boyle, and inventor of the air-pump, intensified the electric power previously obtained. He devised what may be called the first electrical machine, which was a ball of sulphur, about the size of a child's head. Turned by a handle and rubbed by the dry hand, the sulphur-sphere emitted light in the dark.

Von Guericke also noticed that a feather, having been first attracted toward his sulphur globe, was afterward repelled, and kept at a distance from it, until, having touched another body, it was again attracted. He also heard the hissing of the "electric fire," and observed that a body, when brought near his excited sphere, became electrical and capable of being attracted.

The members of the Academy del Cimento examined various substances electrically. They proved smoke to be attracted, but not flame, which they found deprived an electrified body of its power.

They also proved liquids to be sensible to the electric attraction, showing that when rubbed amber was held over the surface of a liquid, a little eminence was formed, from which the liquid was finally discharged against the amber.

Sir Isaac Newton, by rubbing a flat glass, caused light bodies to jump between it and a table. He also noticed the influence of the rubber in electric excitation. His gown, for example, was found to be much more effective than a napkin. Newton imagined that the excited body emitted an elastic fluid which penetrated glass.

Dr. Wall (1708) experimented with large, elongated pieces of amber. He found wool to be the best rubber of amber. "A prodigious number of little cracklings" was produced by the friction, every one of them being accompanied by a flash of light. "This light and crackling," says Dr. Wall, "seem in some degree to represent thunder and lightning." This is the first published allusion to thunder and lightning in connection with electricity.

Stephen Gray (1729) also observed the electric brush, snappings, and sparks. He made the prophetic remark, that "though these effects are at present only minute, it is probable that in time there may be found out a way to collect a greater quantity of the electric fire, and, consequently, to increase the force of that power which by several of those experiments, if we are permitted to compare great things with small, seems to be of the same nature with that of thunder and lightning."—*From "Tyndall's Lectures on Electricity," in Popular Science Monthly for March.*

It is pleasant to see that somewhere in the world now and then the physician's skill is properly estimated. It may be remembered that Professor Depaul, of Paris, a few months since, was called to Brazil to attend the emperor's daughter in confinement, for which he received fifty thousand dollars. The reason for this extraordinary summons, as related by the Paris Fiago, and copied in the *Medical Times and Gazette*, was, that after nine years of sterile married life, the princess, by following the treatment recommended by Depaul, became pregnant; but the child unfortunately was still-born. She became pregnant again, and this time the emperor solicited Depaul to come out himself and conduct the delivery, and he at last was persuaded to go. A baby weighing twelve pounds was after thirteen hours labor, delivered with the forceps. It was an hour before it gave signs of life, and only after artificial respiration and the various methods of resuscitation had been tried. It is now a healthy child. The profession of Rio Janeiro received Prof. Depaul quite coldly, and would render him no assistance. A great revulsion of feeling ensued, however, after the fortunate event had transpired, and Prof. Depaul says, "My room was never empty from morning till night, and I was obliged, in spite of a determination to the contrary, to give consultations. In less than eight days fifteen thousand francs' worth of piaster were laid on my table as fees."—*Louisville Med. News.*

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Original Contributions.

ROETHELN.

By A. J. MILES, M. D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine and Surgery.

CASE I.—On January 6, 1876, I was called to see Ida W—— 481 Walnut street, aged three years and two months, who presented the following symptoms: She had been coughing for the twelve hours previous to my visit—with the cough there was sneezing and some lachrymation. The face was red, the tonsils swollen, and the palpebral conjunctiva injected. There was edema of the nose and eyelids. Over the chest, abdomen, and thighs there was a rash, which occurred in continuous portions, covering considerable parts of the trunk; on the thighs however the eruption was of small circular form, resembling measles. The pulse was 140, and the temperature 103° F.

Jan. 7. Rash disappearing; throat still sore; cough continues; pulse 130, temperature 102.5°.

Jan. 8. Rash has disappeared entirely; fauces no longer injected; temperature 100°.

Jan. 9. Cough continues

Jan. 10. Well, no desquamation followed.

The child had had measles a year previously.

CASE II.—Ernst M——, 465 Vine street; age two years and six months. Jan. 12. The child is covered with a rash, resembling that of scarlatina on the trunk, but approaching measles on the extremities. There is mild pharyngitis, and the tonsils are slightly swollen. There are neither cough, sneezing nor lachrymation. Temperature 102 8°, pulse 140.

Jan. 13. Rash almost gone on the trunk, but still very distinct on the extremities. Throat still sore, temperature 101.5°, pulse 130.

Jan. 14. Rash has in a considerable measure reappeared on the trunk, but is fading on the extremities. The fauces not so red. Temperature 102.5, pulse 130.

Jan. 15. The rash and pharyngitis have disappeared. Temperature 100°, pulse 120.

Jan. 16. Well. Slight desquamation occurred three or four days subsequently. Had had scarlatina at the age of nine months.

Case III.—Anton Sch——, Ohio Avenue, age fifteen years and two months. Jan. 14. Patient has headache, bowels are constipated, no cough, coryza, or pharyngitis. Face, trunk, and upper extremities covered with a rash, closely resembling measles. Rash has no crescentic form, there is some itching of the skin. Temperature 102°, pulse 105.

Jan. 15. Headache gone, rash coming out over lower extremities. Temperature 100°, pulse 80.

Jan. 16. Rash disappearing on trunk and upper extremities; persists on lower extremities, and has a purplish appearance. Temperature 98.6°, pulse 80.

Jan. 19. Well. No desquamation. This patient had experienced both measles and scarlatina when a child.

Case. IV.—Celia W——, 669 Sycamore street; age four years and nine months. Jan. 17. Had been feverish and restless on the night of the 16th. When I saw her she had headache and backache; the rash had appeared, according to the statement of the mother, first upon the face, and it was first noticed six hours previous to my visit. The rash when I first saw the patient covered the face and trunk. On the face the rash was scarlatinous in appearance, on the trunk it clearly resembled measles. The fauces were red, palpebral conjunctiva slightly injected, and there was some nausea. Temperature 100°, pulse 124.

Jan. 18. Rash disappearing from face, and is making its appearance on the lower extremities; there is some itching of the skin. Temperature 98.4°, pulse 104.

Jan. 20. Eruption has entirely disappeared.

Jan. 22. Slight desquamation. This patient had had measles a month before the above attack; never had scarlatina.

Case V.—Howard K——, 657 Sycamore street; age six years. Feb. 1st. Patient covered with a rash, extending over the face, trunk and upper extremities, which first made its appearance twenty-four hours before my first visit. The rash is larger than that of measles, and is accompanied by a slight itching of the skin. The temperature 100°, pulse 110; no cough, coryza, or pharyngitis.

Feb. 2. The rash disappearing from face and trunk. Temperature 99°, pulse 104.

Feb. 3. The rash has entirely disappeared, excepting some traces on the legs and feet. Temperature and pulse normal.

Feb. 5. Slight desquamation followed.

I attended this patient during an attack of measles in November last. He never had scarlatina.

Case VI.—Christ. B——, 26 Mansfield street, age two years, March 6th. This child had been feverish and restless during the previous night. When I saw the child it was covered with a rash over the face, trunk, and upper extremities. The rash was elevated and larger than a three cent piece, in many parts of the body; it was confluent. There was coryza and injection of the palpebral conjunctiva, with slight congestion of the fauces and very little cough. Temperature 101°, pulse 128.

March 7. Eruption covering the entire body, catarrhal condition continuing. Temperature 100°, pulse 122.

March 8. The rash disappearing from the face and upper extremities; cough entirely subsided. Temperature 99°, pulse 110.

March 9. The rash still present on the lower extremities, temperature and pulse normal. Patient discharged, no desquamation followed. This child never had scarlatina, but I attended the child for measles during the month of November last.

At the time of the occurrence of the above cases the city was being scourged with epidemics of both measles and variola, but no cases of scarlatina occurred in my practice. I think the symptoms and course of the disease above described justify me in a diagnosis of "Roetheln."

Roetheln is a disease which was first described by German writers over fifty years ago, and by them called Rubeola. Since this time it has been noticed by various German, English and American physicians under quite a variety of names. The Germans have named it Roetheln, Rubeola, Ritteln, Feuermassern (Fire Measles) Falschen, Massern (False Measles), Roseola Febriles, Rubeola Scarlatinosa, and Rubeola Morbillosa. English writers call it German Measles, and Rubeola Notha. The latter name was first used by Dr. Babington during an epidemic of the disease which prevailed in London in 1864.

The nature of Roetheln has given rise to considerable discussion. Murchison and Liveing among English authors have asserted that the disease is distinct from measles and scarlatina, and that attacks of one of these latter give no exemption from an attack of the former, and vice versa. This view is strongly supported by Prof. J. Lewis Smith, of New York. Aitken regards the disease as a "hybrid" of measles and scarlet fever. Niemeyer considers the disease as a modification of either measles or scarlatina. Hillier speaks of it as a distinct exanthem. The observations of Prof. Smith are greatly in favor of this belief. Of the cases which he reports nineteen had had measles, one took measles a month after the attack of Roetheln, and several suffered subsequently from scarlatina. Two of the five cases reported by Liveing (*Lancet*, March 14, 1874) had had measles. Five of the cases which I have detailed had experienced measles ; in four of the cases I attended the patients during their attacks. Two of the cases had had scarlatina ; in one of the cases I attended the patient.

The diversity of opinion as to the nature of Roetheln probably arises from the great difference in its course and symptoms as observed in different epidemics, in different localities, and at different seasons of the year.

Vogel describes the eruption as differing in no respect from measles, and continuing but one day, or at most two. The desquamation he says is slight. In Liveing's cases the eruption was papular, and lasted several days. Hillier describes the rash as at first resembling measles, but becoming more like scarlatina. Smith says the rash usually occurs in certain patches, having nearly the size and color of measles, interspersed with which are numerous smaller eruptions, scarcely more than points of the same color. Sometimes however the rash is continuous over a considerable extent of surface resembling scarlatina. It usually disappears without desquamation, and lasts about four days. In my cases the rash lasted, in four cases, three days, and in two cases, four days ; in three cases or one-half the number there was desquamation. The prognosis in the disease is almost invariably favorable. Some cases however have been followed by dropsy, diphtheria, and suppuration of the cervical glands. To sum up the reasons for considering Roetheln as a distinct disease :

1. Roetheln occurs in persons who have experienced both measles and scarlatina, and vice versa.
2. The disease differs from measles in the early appearance of the eruption and the absence of the sequelæ of measles. The eruption is often continuous over a considerable extent of surface.
3. The disease differs from scarlatina in its mildness, in the character of the eruption, and the absence of sequelæ.

4. The disease differs from roseola in the successive appearance of the eruption on the upper and lower parts of the body, and its covering the whole body.

The eruption is usually larger in size than in roseola. Roetheln occurs usually in the autumn and winter, roseola in the summer. Roetheln occurs in epidemics, and is contagious. Whether future observers shall establish the individuality of this disease remains to be seen. Every exanthem has had to contend hotly for its present position in the list of individual diseases, and Roetheln is undergoing the universal experience of it skind.

CONVERSION OF THE TYPES OF FEVER.

By W. L. Fleming, M. D., Cincinnati, Ohio.

The difficulty of presenting exact definitions has always been acknowledged by the scientific pathologist ; description is far easier, yet even the most graphic portraiture of diseases has been found insufficient for the purpose of clear diagnosis, and complaints are universally made on this subject by every systematic enquirer. The truth of the remark is most strikingly exhibited in the numerous discussions concerning the forms, types, and varities of fever ; while on the one hand the most minute distinctions are attempted to be drawn, separating groups to all appearance closely allied, on the other, we find avowed the disposition to link together, as identical in their essential characteristics, classes that seem widely distinct. In the study of fevers we are, from the very commencement, more forcibly struck with the difference between them than with the points of similarity. The word fever is too wide and covers too many conditions. Compare an habitual intermittent or a hectic with a malignant typhus, a case of small pox with one of yellow fever, and we will notice how wide is the difference that separates one from the other, Copeland says : " Fever is of but one kind." Jenner treats of four kinds of continued ; while Smith previously said there is but one. Are we to infer from this that three new kinds or types of continued fever have made their appearance in Great Britain between the time of Smith and Jenner ? Paine says : " The general pathological cause in fevers, as in inflammation, is essentially the same." Holland says : " when we take up fevers we have a knot so intricate that no research has hitherto succeeded in unraveling it." Bartlett says : " he does not know of any other distinct fever than typhoid, typhus, periodical, in its forms of intermittent and remittent, congestive, and yellow fever." Fenner enumerates sixteen nominal varieties. In Africa they claim that there is only one fever poison, and that the others are only modifications or exaggerations of this one. If thus we find that fevers are regarded as consisting promiscuously of numerous types, or forms, all of which, arising from the same source, may appear together, there can be no little interest in the investigation of the subject of types and conversion of fevers. If we cannot find palpable, marked, and constant distinctions between the several varieties of fever, a similar confusion can scarcely be prevented from extending far more widely on the application of the same principles of reasoning, and we shall be scarcely less embarrassed by the efforts to distinguish fevers from other diseases, than to separate its several forms, each from the other, that resembles it. Under this expansive name, indeed, have been included so many and such diversified maladies, that it becomes absolutely necessary by some mode of limitation, to circumscribe the field of discussion. It is a matter certainly of much importance to determine what is type in fevers ? and if there be any definite characteristics to which the term is applicable to ascertain the mode in which it originates, and the contingencies which influence it. The word itself is habitually employed by writers in the most indiscriminate manner. At one moment it is used to separate the intermittents, divided only by periods of time. We say the tertian " type," the quartan " type," etc. Again, we speak of the inflammatory and typhoid " types " with very widely different purpose ; so also a mild and malignant " type," a simple and congestive " type," are phrases daily met with. Yet however diverse its application by different writers, and by the same writer at different times, it is evident that it is always employed to point to something characteristic. Thus the periodical are set apart from the continued fevers by a feature clear and palpable.

According to some authors there is a general or universal convertibility of type among all the forms of fever, that is, if they intend what their words plainly import. No imaginable contingency, or series of contingencies, can avail to change a bilious remittent into measles, or a paludal intermittent into small pox. The word type, then, is too vaguely used when employed to express promiscuously all these relations, some of which are those of strong resemblance and close affinity, others again of marked dissimilarity, and others still of almost absolute contrast.

Physicians have always felt a great unwillingness to subject themselves to the charge of ontology. It is difficult to conceive of any malady as an actual substantive existence ; disease, dynamically considered, is a condition, or a series of conditions, arising under certain influences, as an affection of the tissues modifying their action, or of the fluids their composition, and for the time impairing their integrity, and changing morbidly their mode of being, and their relations with each other and surrounding nature

The causes of diseases present themselves to us in an infinite diversity of forms, some are undefined though impressive, of which we have only a conjectural or rational idea. Of others, we ascertain the positive and palpable existence ; they are poisons, or viruses—animal, vegetable, or mineral, in nature and origin ; in form, solid, fluid, or aerial ; sometimes reproductive or germinal, therefore endowed with life, on the one hand ; on the other and perhaps more commonly, inorganic and incapable of self multiplication or reproduction. The first class consists of agents for the most part innocuous. They act as in heat, cold, exercise, diet, amusements, because of the inadaptedness or excess ; the amount and intensity, and sometimes the abruptness of change transcending the capacity of accommodation in the system. Hence proceed many diseases which may be deemed incidental.

The second class of causes we term, and I think not improperly, specific, and it will be safe to conclude that their effects will of necessity be specific ; and in these specific diseases, when we detect a cause, we expect the development of a definite train of consequences, and vice versa, when we perceive the effects we infer the activity of the cause. It is important then to inquire whether fevers are specific or incidental. Fevers differ essentially from each other, and must be divided into classes as originating from specific poisons, and those arising from impressions injurious only by unadaptiveness.

In some classes of fevers we have clearly enough apprehended the materies morbi to which in its peculiar and characteristic efficiency we must ascribe all the train of results. No one, it is presumed, will doubt that the variolus virus is a poisonous entity, or that the fever to which it gives rise is a specific effect absolutely sui generis, and exclusively derivable from the generative property resident in the fluid of the pustule, as the qualities and modes of being of the oak are derived from the acorn.

That these truths, though not so palpable, are as clear with regard to other exanthematous fevers will scarcely be denied. The more positively we are prepared to recognize the contagiousness of "fevers" and their dependence upon contagion for their ordinary generation, the greater facility will we have in admitting the specific characters thereof.

If we admit that contagious transmission is of a reproductive character, and of an individual vitality, either animal or vegetable, we shall hold to the view enunciated with the greater boldness and the more tenacity. Following the great division of fevers into periodical and continued, the former would seem to be derived from the poisons of vegetable or mineral sources, the latter exclusively of animal origin. The rule is (and we have exceptions to this rule, but the exceptions make the rule), we find periodical fevers most rife in fields and woods, and fertile valleys sparsely inhabited, while continued fevers devastate the dense populations of cities in their most crowded lanes, and the close air of prisons, emigrant ships, etc. The first poison is usually called malaria, a name familiar everywhere, and the latter ochlesis, denoting crowd poison. Malarious fevers are the periodical, they are infinitely more frequent in desolate places than in large towns and cities, they are more rife and more violent in hot than in temperate regions. They are everywhere peculiar to the hot season, subsiding and disappearing when the weather becomes cold; on the sides of the mountains they cease to present themselves. They are not known to be contagious or transportable. They assail repeatedly the same subject, increasing with relapse. All these forms, thus capable of general discussion, thus referable to a common origin, are notoriously mutable or controvertible; the remittent subsiding into an intermittent, the intermittent being aggravated into a remittent; a quotidian falling into a tertian or quartan, or becoming duplicated, complicated or exasperated into quotidian frequency. Continued fevers are also closely allied to each other, so that the diagnosis of the several varities, distinguished by name from each other, is still warmly disputed. They abound in the densest populations; if not absolutely confined to crowds, they are comparatively rare in thinly settled or open countries; they are most rife in high latitudes or the cooler portions of the temperate zones; they are held by most to be contagious; they seem to find their origin in masses of atmosphere confined about human bodies, and are either produced in or by human exhalation and excrementation; their causes thus generated seem transportable; they are not apt to exhibit relapses in convalescence, and seldom attack the same subject more than once.

We can infer from the disputes as to their identity and difference, resemblance and contrast, that they often mingle and run into each other. Scarlatina has often been confounded with measles, measles with small pox; and varioloid, one of the modifications of variola, is sometimes almost if not altogether undistinguishable from it. I do not object to the nicest diagnosis, the drawing of most delicate lines of distinction. I applaud rather than condemn attempts made in this way. But with all the efforts at analysis we are perpetually presented with family resemblances, the intrusion of symptoms when they are not looked for, and their absence when they are confidently expected. In emigrant ships there has been imported together true typhus and genuine typhoid. In the masses then this intermingling cannot be for a moment doubted.

An analogous blending occurs as palpably. If there be simple fever we know that by mere protraction, exhausting the vital powers and prostrating the patient, symptoms of a typhoid character will be brought on, and lesions closely similar will take place, and may be discovered by post mortem. We find in long protracted cases, remittents (ordinary) of malarious regions take on what is commonly termed a "typhoid character," and on examination typhoid lesions will be found (sometimes) in the bodies of persons who died from bilious remittent; typhus and typhoid often give modification to the eruptive affection, when they are unduly protracted or occur in debilitated subjects. Scarlatina seems readily to mingle with other exanthemata.

Here we find our most satisfactory illustration of the blending or the intermingling of types. It is hard to admit the truth of the doctrine that "fever," or as it is termed the febrile element, is a unit, identical in all the forms of that protean malady. On the contrary, that from the great diversity of specific causes of fever, a great diversity of specific effects must result; and that as the effect must always be precisely relevant to the cause, unless the latter undergoes modifications, the former must remain unaltered. If, for example, some fevers are contagious, and some are not, this single fact constitutes of itself an essential to diagnosis. Materially speaking, contagion must, in the present state of our knowledge, be assumed to be an organic germ, vital, reproductive. It is vital because reproductive. It follows clearly that contagious types of fever are divided from non-contagious.

If we are right in regard to the origin of the two great classes of fever poisons, malaria and ochlesis, and a patient falling into typhus or recovering from it, exhibits the periodicity of malarious intermittent, we can safely say he was exposed to both the poisons, malaria and ochlesis. The latter of these can never produce the effects of the former, and vice versa. This conversion or substitution, in certain instances, may result from previous diseases or from contingencies which act more obscurely upon the constitution, without developing any open malady, giving rise to a pre-disposition. To close this now already too long article we will say, that if the causes are cognate and correspond, "blending of type" takes place, and especially if they are nearly or quite equal in force, and circumstances do not favor the one at the expense of the other. But if they be strongly dissimilar or contrasted, or in any sense incompatible, or if circumstances foster the one and repress the other, then there will be the subversion of the one, and we shall have conversion of type in the only sense possible and intelligible.

SURGICAL CASES IN FOREIGN HOSPITAL PRACTICE.

By George Halsted Boylayd, M. A., M. D.

Read before the Medical and Chirurgical Faculty of Maryland,

Mr. President and Gentlemen of the Faculty:

Trephining has always been considered, down to such distinguished authors as Abernethy, Dupuytren, Velpeau, as a very fatal operation. Prof. Dieffenbach, of Germany, in his valuable treatise on Operative Surgery, says of it: "For many years I have feared trephining more than the wounds that have come under my observation. It has been to me in most cases a certain means of ending the patient's life. In many hundred cases of wounds of the head in which I did not trephine, but comparatively few patients were lost; most probably, however, had I believed in trephining as a means of healing, the result would have been unfavorable by a very large majority of cases." The words of such high anthority are only confirmed by the sorry returns of the French sugeons. M. Nelaton during the latter part of 1872 published a report, in which he states that all the cases of injury of the head, sixteen in number, in which the trephine had been used in Parisian hospitals during fifteen years, without exception, terminated fatally. Latterly Prof. Stromeyer has come out in strong terms against trephining, giving a resume of his surgical practice extending over a period of forty years, twenty of which were spent as surgeon-in-chief of the German armies.

Certainly, the experience of American and English surgeons of the present day will not justify us in regarding trephining otherwise than as an extremely grave and doubtful operation. During the year 1874 one case in which the trephine was used successfully was reported in *The Lancet* of September 12th, by George Lawson; that of a young man who had shot himself in the forehead with a pistol. Both tabulæ were shattered; there was unconsciousness, but no paralysis. The diameter of the wound was sufficient to admit the finger. The trephine was applied, and nine pieces of bone extracted, the ball being found on the dura mater. Ten weeks after the wounding the patient was discharged, cured. A second case of trephining with successful issue is reported this year, 1875. It is so interesting and instructive that I give it in detail. De Bourhilon had under his charge an Arab, sixteen years of age, who three days previously had received a blow on the head with a stick, whereupon paralysis of the right side of the body supervened. An extravasation of blood was visible in the sutura sagittalis, on the edges of which a depression of the bone could be felt; the respiration was normal, the intelligence intact. After eight days his condition was unchanged, and it was decided, as the diagnosis of fracture with depression was accepted, to trephine. An asterated fracture with depression of the four principal pieces was discovered; these fragments were broken obliquely from the outer to the inner tabula, and were situated between the cranium and dura mater. A first trephine crown was applied outward from the fracture; the use of the elevatorium gave no result, and it was therefore necessary to apply a second crown; notwithstanding which, it was as yet impossible to lift the fragments until the edges of the bone had been carried off with hammer and chisel. The suface of the brain was laid bare to an extent of ten quad. centm. or about four square inches; the paralysed side of the body was at once attacked by an extraordinarily severe tremor accompanied by painful formications. Two days after the operation, fever, hyperæsthesia, formications and slight twitchings of the paralysed side set in; the wound caused by the operation was granulating well. Permanent irrigation was kept up; on the next day came vomiting and hiccough; on the following day the temperature rose to 41 .3° Cel. or 106° Fah. On the 8th day after the operation the contraction had almost entirely disappeared; patient was able to make a few motions with his leg; after another eight days patient walked without support, dragging only the right leg still; he could elevate the arm to the horizontal position. From this day forth his condition became steadily better, and at the end of seven weeks he was discharged, cured.

No mention is made of a substituting piece, and we are left to fill up the foramen as science suggests. Age and the early date at which the operation was performed were both in favor of this patient, and doubtless exercised a potent influence in facilitating his somewhat rapid recovery. Especially noticeable is the extent to which the cranium was carried off; ten quad. centms. or about four square inches were taken away, and still the boy recovered. Exposing the brain to a greater or less degree to injuries or septic agents without fatal issue, is, however, in accordance with the teachings of Brown-Sequard and other modern physiologists. Observations on man and experiments on animals show that a large portion of one hemisphere may be removed without interfering materially with the physiological action of the other. The case is a very remarkable one, complicated as it was with hemiplegia. This may be considered as nothing very much out of the ordinary way, although we often see fracture of the cranium unattended by hemiplegia, which in any case renders the prognosis more grave. The portion of bone substance, though perhaps larger than any other on record successfully removed from the cranium, and influencing in its turn the prognosis, does not place a limit to our advances in this direction.

The following account of a wound in the heart, without lesion of the pericardium, was observed by M. Hicquet; and the main facts are taken from his notes reported in the early part of this year. A man twenty-four years of age was found dead with a wound on the front side of the right half of the thorax. The legal post-mortem showed a wound in the fourth intercostal space, close to the right edge of the sternum, and running obliquely from within outward. Behind the wall of the breast, between it and the front portion of the pericardium, was found a cylindro-conical projectile of seven centms. or about 2½ inches diameter; there was a slight infiltration of blood into the cellular tissue surrounding the ball; the pericardium, which was loosened up about the wound to the extent of 2½ centms. or about ¾ inch, was puffed out with partly liquid partly coagulated blood, but the most careful examination discovered no severing in the continuity of the tissue. The right ventricle had received, corresponding to the wound in the thorax, a circular penetrating wound, with slightly lacerated depressed borders, whose circumference was something less than that of the ball. The heart was strongly contracted, and contained only a little liquid blood; its tissue was healthy.

These wounds have been considered by some authors as very doubtful; so by Reynaud, who also cites an interesting case in the *Dict. Nouveau de Med. et de Chir.*, similar to Hicquet's. The celebrated Borel, surgeon of Louis XIV, has described a case that came under his notice; in which, in consequence of a pistol-shot, a penetrating wound of the right ventricle had taken place without the least severing of the continuity of tissue of the pericardium. Gallard calls attention to a wound of the heart by a needle which transpierced the pericardium, and whose presence during life was not even suspected. Asche in *Schmidt's Jahrbucher*, No. 2, 1875, gives us the information that in this case, the period during which life lasted—in spite of the irritation caused by the needle—was four weeks. The fact that the ball was found outside the pericardium would be sufficient explanation of the non-existence of a wound in the same. If we accept the theory that in the moment of the wounding the heart was in the diastole, we readily account for the easy piercing of the wall of the heart. The projectile struck the pericardium, which at this place is bound to the wall of the thorax by fatty, easily torn connective tissue; this membrane possesses a certain elasticity, and was through the spent force of the ball forced with it into the muscular substance of the heart.

The next case to which your attention is invited you will find authenticated in *Gaz. Med. d'Orient*, January. It is a case of penetrating wound of the abdomen, and proves afresh that when the spleen is in a state of prolapse, pieces of the same may be taken away without bad result. A lad 18 years of age, was, during a quarrel, wounded in the left hypochondrium, whereupon the spleen at once protruded. The patient was able to go about for an hour, but then collapsed. He was carried to the hospital and remained there four hours before it was possible to reduce the prolapsed spleen. He was then brought to another hospital, but the spleen still protruded greatly, and the heavy inflammation around the borders of the wound strangulated it. At the same time fever supervened, accompanied by severe pain, which, however, was confined entirely to the borders of the wound, 1½ inches long by ¾ inches wide. As beginning putrefaction was already present, a ligature was passed around the strangulated portion, and disinfecting means used. Three days later the decomposition of the protruding part caused septicæmia to be feared; it was therefore removed with the scalpel. The surface of the wound showed no tendency to granulate. After twenty-five days the wound was cicatrized. The resected piece of the spleen, which was preserved in alcohol, kept its normal form and size. The patient was stronger after the operation than before, only the liver was a little swollen.

When the spleen is diminished in size or congenitally small, we see, though unfrequently, a vicarious enlargement of the liver; and inversely, we sometimes find the liver smaller and the spleen proportionately enlarged—as has been observed in the clinics of Niemeyer, Liebermeister and Wunderlich. It may be suggestive to recollect in this connection the experiment performed by the celebrated physiologist Johann Muller, who extirpated the spleens of several hunting-dogs. The dogs not only entirely recovered, but were stronger, better and fleeter than those that were allowed to keep their spleens.

An extremely rare case of subcutaneous rupture of the musculus serratus anticus major is mentioned in the *Bayer. Int. Bl.*, xxi. 13. A soldier twenty years of age, while turning on a bar in the gymnasium, remained hanging by the right arm, which received at the same time a severe shock, and the shoulder pained him to an extraordinary degree. He at once became incapable of elevating the arm to a horizontal position, backward or upward; the lower angle of the scapula showed a deviation of 1.5 centm. or about one-third of an inch from the bow of the ribs; this deviation could be made to disappear by moving the scapula forward, to enlarge by moving it backward. On the side from the inner edge of the scapula was perceptible an abnormal depression, as if the soft parts were wanting, and by the exceedingly painful palpation the edge of the scapula appeared less voluminous than on the healthy side. As soon as the scapula was brought against the bow of the ribs the patient could make every possible motion; a phenomenon which has been seen in a case of paralysis of the serratus anticus major in Volkmann's clinic. In order to bring the ruptured muscular fibres as near as possible together, the right arm was brought well forward and fastened in this position by two mitellæ bandages. Three weeks later the condition was a little better, and the movements, though not yet entirely free, were nevertheless without pain.

The rupture of a muscle in its parenchyma is a very rare occurrence, for as direct experiments on the cadaver and observations on the living subject have proved, by great pressure the tendons, in the most cases, are torn loose from the muscular substance; still seldomer do we observe cases—but yet we do observe them—in which both muscle and tendon remain intact and a piece of bone is torn out; but most seldom of all is it our lot to record a case similar to the one above mentioned, in which the muscle tore in its parenchyma. The tearing or rupture of a muscle generally gives a bad prognosis; and for this reason, that the forming cicatrice tissue is elastic and gives upon pressure, so that the function of the muscle is thereby considerably interfered with. By the case in question an apparatus is certainly indicated to fix the angle of the scapula to the bow of the ribs, thereby leaving the movements of the arm free.

In conclusion, a case of tearing off the first phalanx of the thumb with the whole of the tendon of the musculus extensor pollicis longus (*Bull. de l'Acad.* 2 Ser. iii.) may be interesting. A strong man caught his left thumb between a heavily loaded cart and a tree. Pain caused him to draw his hand back; in so doing the end of the thumb remained torn off, with the whole of the tendon of the mus. extens. poll. long. and a piece of the muscular substance, 14 centms. in length, attached. Further observations on this case are not given, as it had been when reported only four days in the hospital.

M. Gosselin, who reports this case before the Academy, calls attention to the fact that, in most cases of this class, the severing of the tendon takes place at the point where the tendinous portion goes over into the muscular substance, so that the latter remains intact. But Morand in eight cases mentioned by him, speaks of three in which the muscle tore in the substance just below the upper insertion. It is worthy of note that in tearing the mus. *flexor* pollicis only a separation of the tendinous portion; while in tearing the mus. *extensor* pollicis, a separation of the muscular substance have been observed. We can, in short, have four kinds of wounds: 1. Simple severing of the thumb with tearing of the flexor or extensor tendor at its point of insertion on the phalanx; 2. With the several phalanx a portion of tendon with muscular substance attached may come away; 3. When it is (as most generally) the flexor tendon, the rupture takes place near its junction with the muscular substnnce; 4. When it is an extensor tendon, the break occurs most frequently at the upper insertion. Morand, Larrey and Debrou have already shown that in rupture of the flexor tendon, muscular fibers—although fewer in number and shorter—can be found attached. Finally, as in a case mentioned by Morand, both muscles can at the same time be torn off; the flexor in its tendinous portion, the extensor in its muscular portion.

ON THE VARIOUS MODES OF GENERATION — ESPECIALLY PARTHENOGENESIS.

By David Inglis, M. D.

Read Before the Detroit Academy of Medicine, Dec. 9, 1875.

Gentlemen.—To the mind of a child there is but one mode of generation—the spontaneous; to a child all animals simply are born and grow. To the primitive man there arose, by experience and observation, the knowledge of a second mode—sexual generation. At first the field of action of spontaneous generation would seem by far to exceed that of sexual generation; but, as man's observations multiplied, the relative prevalence of these two modes would seem to change, so that at the time of Aristotle all the higher animals were supposed to be produced by sexual generation, while insects, reptiles, fishes and the lower animals were believed to originate spontaneously.

Not until two thousand years after Aristotle was it discovered that insects also were the progeny of sexual generation.

As the study of nature became more careful and extended, the seeming prevalence of spontaneous generation dwindled away, until now there are but scattered adherents to this doctrine, and it is by them claimed to be the mode of generation in only the very lowest form of animal life. The doctrine will probably be annihilated at this last stand-point, as soon as we attain to sufficiently improved means of observation.

But, in studying animal and vegetable life, naturalists have come upon other modes of generation, and it is concerning these that I wish especially to speak. The plan of sexual generation, as we find it in the higher animals, is familiar to everyone. Two animals of the same species, which differ in certain particulars and are called male and female, each produce a different cell or cell product; in the female this is a cell called the ovule, which is of nearly uniform character in all species; in the male this is a cell product called a spermatozoon, which is endowed with active motion, and varies remarkably in different species in its form and mode of progression. The whole process of sexual generation consists in these two products coming together, and this result is secured in various ways in different animals—sometimes by actual contact of the male and female, but often this is not necessary, as in fishes, where the females lay eggs in certain localities, and the males coming afterwards lay spermatozoa in the same places; or in oysters, where males and females are both fixtures, and the two products ejected into the surrounding water come in contact, as it were, accidentally. The mode may differ; the end to be attained is the same.

But it is found that often, instead of male and female being distinct, the same individual produces both ovules and spermatozoa. Such is, indeed, the commonest mode in plants, where one flower has both stamens with pollen and ovaries with ovules. Such beings are called hermaphrodites. Many hermaphrodites are capable of bringing ovules and sperm together, so that, were there but one such individual in existence, it could propagate its kind. Other hermaphrodites are not so perfect. In some the same animal produces the different products at different times, so that it cannot fructify its own ovules. Others, as the segments of the tapeworm (which are really separate animals), have the male and female organs so separated that they cannot come together, so that the ovules of one segment can only be fructified by the sperm of another.

We now come to a third mode of generation—parthenogenesis, or virgin generation. This is the term used to express generation without the coming together of sperm and ovules. This curious phenomenon, although scarcely known until within the last twenty years, occurs in several classes of animals, but as it is most easily studied in the bee, we will now consider the process as there shown.

In a hive of bees there are hundreds of drones or male bees, thousands of imperfect females or workers, and one perfect female, the queen-bee, who alone is mother of the succeeding generation. The workers are imperfect females, they never copulate with the males, and are incapable of propagating their species, except as will be mentioned later.

The queen-bee, after its coming to maturity, chooses some warm summer day and comes out of the hive for the first and only time, takes a short flight, and is impregnated by some one of the drones which may be flying about. She then returns to the hive, never again to leave it. The semen of the drones does not go directly to the ovaries, but is received into a special sac which opens upon the oviduct, and is there stored up. As the ovules pass the opening of this sac they are impregnated one by one.

The queen, having returned to the hive, at once begins the great work of her life—laying one egg in each cell which the workers have previously built. The cells are sealed up, and the egg develops into the grub or larva. The workers now begin to feed the larva with a specially prepared food.

This consists of a mixture of honey and pollen, which the workers have previously partially digested. All the larvæ receive this food for six days, after which only the queen and drones receive it while the workers receive honey and pollen undigested.

The queen-bee, besides being fed upon this prepared food longer than the other females, receives special care while developing into the larval state. The probability is that the workers are imperfectly developed, on account of being deficiently supplied with this prepared food, for occasionally a worker is accidentally supplied with more of this food than the rest, and such workers may lay a few eggs. Such is the ordinary course of propagation in a hive. But it was noticed that at times the young brood consisted entirely of drones, and upon observation it was found that the queen-mother of such a swarm was deformed or injured in some way, so as to be unable to leave the hive, and so prevented from copulating with a drone. It was then found experimentally that, on preventing the queen from coming out, after a time she ceased her efforts to escape, and goes about laying her unfructified eggs as usual; and these unfructified eggs, which have never come in contact with spermatozoa, develop, but the new brood consists of males only. This is virgin generation.

Careful studies showed the existence in each bee ovule of a minute opening, a so called micropyle. In all female eggs was found in this micropyle a spermatozoon, while in the male eggs, although the queen had been supplied with semen, no spermatozoa were found. When the imperfect females, who are incapable of copulation, lay eggs, as above mentioned, the progeny are all male. Further proof that the drones are developed from unimpregnated eggs is found by impregnating a German queen bee by an Italian drone, or *vice versa*. It is a rule that in such a case the pregnancy resemble both parents, but in the bee it is found that the females which come from impregnated eggs do resemble both parents, while the males resemble the mother only, showing that the male does not affect the male progeny.

Ants resemble bees in this respect; the unfructified eggs produce males only. In some butterflies, on the other hand, the unfructified eggs produce regularly perfect females, so that we may have many generations of butterflies where no male has ever been. These, now well authenticated, facts prove that impregnation is not absolutely necessary in all cases. We now come to a fourth phase of generation allied to parthenogenesis. We find several species of animals whose ovaries contain two kinds of ovules, those which can be fructified, and those which cannot. For instance, take the aphides or plant lice. Here we find two modes of generation combined. In the fall of the year each plant louse lays a number of what are called "winter eggs." These eggs are fructified, and after lying all winter, develop in the spring in the usual manner, *i. e.*, by segmentation, but the brood thus produced in the spring are all imperfect females—there are no males. These imperfect females are supplied only with what are called "summer eggs." They have no receptacle for semen, they never copulate; indeed, there are no males with which to couplate. These "summer eggs" produce young, not by the usual process of segmentation, but by a process of aggregation. The progeny are again imperfect females. During the summer the plant lice develop in this manner several generations. About the ninth or tenth generation towards the end of the summer, from these imperfect females, instead of another brood of imperfect females, there comes a brood of perfect females and males, which now copulate, and the perfect females lay now the winter eggs. Here we have both sexual and virgin generation combined.

There are other animals in which both winter and summer eggs are present in the ovaries at the same time, and if the female is impregnated, the winter eggs are developed, while if she is not, the summer eggs only are developed. A somewhat analogous process is seen in the animal called volvox ; the mother is here first fructified by a male and produces in her interior a young volvox. This young animal, while still remaining inside the mother, now produces in its interior the next generation, and this third a fourth, etc., until we have five generations, each contained within each preceding generation, and only the outermost or first member has been impregnated.

A fifth mode of generation is that of budding. This is a process by which from some part of the mother a bud arises, which continues attached until sufficiently developed, when the pedicle is broken, and the young animal begins an independent life. Some fresh water polyps develop in the spring from an impregnated egg, which has survived the winter. Instead of producing by eggs, the animal begins to send out buds. In some species the buds start from definite localities, in others the buds spring from all parts of the surface, so that the animal is covered with buds. In the marine polyp syphistoma, it would seem that the entire surface of the animal was not enough, so that it sends out a long "runner," from which also a large number of buds arise. In corals, which propagate by buds, the buds do not separate, but remain attached, and the form of the coral mass which differs so remarkably in the different species, depends upon the manner in which the buds spring.

A sixth, still different, mode of generation is that by fission, or the splitting up of the parent body into the young. The higher orders of animals cannot replace lost organs, their power of repair being limited to the healing of wounds, or, at most, to the regeneration of bone from periosteum. As we descend in the scale, the power of repair increases, so that spiders, crabs, etc., can replace lost limbs. Going still further we come to animals which, from a separated limb or tentacle, or other small part, can reproduce a whole body, with all the special organs.

The hydra, a fresh water polyp, can be cut in slices in all directions, and from each slice a new perfect animal is developed. In nereids, the normal mode of generation is by splitting into a great number of segments, each of which soon acquires all the organs of the perfect animal. Some split thus transversely, others longtitudinally.

A curious thought in this connection is, that some part of the original polyp continues to remain in successive generations, thus constituting a sort of immortality in a divided state.

Before now proceeding to consider the seventh and last mode of generation, it is necessary to turn aside and consider a remarkable although common phenomenon—that of metamorphosis. In strictness, all development is a metamorphosis, a change of form, but the term, as used, indicates the distinct changes in form and mode of life which some animals undergo as independent beings.

The common type of a metamorphosis is furnished by the butterfly. The eggs of the butterfly develop into the larvæ. If the process ended here it would not be a metamorphosis ; but we find that the larva, after eating ravenously and growing much, proceeds to enclose itself in some sort of protective covering, in which it remains, and is metamorphosed into a chrysalis, which so little resembles a larva that no one unacquainted with the facts would suppose that the two could be in any way related, much less the same animal.

After remaining in this state until from the excess of nutriment, which the larva stored up, the organs are fully formed, the chrysalis opens, and is now metamorphosed into the final product of the series, the butterfly. Such is a metamorphosis, and only the final member of the series is capable of reproducing its kind. The other forms are unsexual. This, then, enables us to consider the seventh mode of generation—alternate generation, which is a combination of metamorphosis, sexual and virgin generation. As perhaps the simplest example of this complex phenomenon, let us take the animals called salpæ. Twenty or more years ago there were described two species of salpæ, which were found peopling the surface water of the sea. One of these, the chain salpæ, resembled a chain, or rather a lot of ovoid bodies, loosely attached end to end (like a lot of bird's eggs strung together). The other species were the radiate salpæ. From a central round body a number of rays projected, and at the end of each ray was a round body resembling the central body. These were known as a distinct species until some one disovered that inside of each of the ovoid bodies in a chain was to be found a radiate salpa, and inside of each of the round bodies of a radiate salpa were to be found chain salpæ. These proved to be the young ones, and thus it appeared that each young salpa resembled not its mother but its grandmother. The links in the chain salpæ are sexual, and their progeny, the radiate salpæ, are unsexual, producing their young, *i. e.*, the chain salpæ, by a process of internal budding.

The tæniæ are of similar character. Each so-called tape-worm represents two alternate generations of one animal. The head is an individual animal, supplied with suckers and hooks, by means of which it attaches itself. It has no sexual organs, but produces its young, the remaining segments of the series, by a continuous process of budding, the successive buds or segments remaining attached to each other. Each member of the brood thus produced is unlike the head, having no prehensile organs, but they are supplied with sexual organs, and produce their young from impregnated eggs. The progeny of these eggs are a kind of sac, out of which, in turn, a tape-worm head is produced. Such is the process in most species of tænia, but in tænia echinococcus the process attains a still greater complexity. The head develops the buds or segments, and the segments produce ovules, as just described, but each ovule, instead of producing a sac from which one head is developed, produces a sac which develops from its interior a number of heads. These sacs are permanent, and become at times much thickened and very large, constituting the large tumors which are sometime found in the human liver. Here, then, we have three alternate generations. A, the head, produces B, the segments, by budding ; B, the segment, produces C, the sac, by regular sexual generation ; and C, the sac, produces again A, the head, so that in this way the child resembles the great-grandmother. As if this process were not complex enough, nature has produced animals in which the parent, A, produces both young, which resemble itself and other young, B, which in no way resemble it, but whose grandchildren resemble the parent A. Indeed, the process becomes too difficult to follow except with the aid of diagrams. Such is alternate generation. It would seem to be a modified form of metamorphosis, in which the members of the whole series are capable of reproduction, instead of only the last of the series, as is the case with the butterfly.

As the summing up of our studies into the processes of generation, we find that they are curiously and wonderfully complicated, instead of being so simple as is ordinarily thought, and yet all these various plans have two facts in common. The first is, that each new individual arises from and includes some part of the maternal body, which transmits to the young individual the thing which we call vitality, and is the means, probably, by which parental traits are inherited by the young. The second fact is, that the specific type is always retained and returned to, no matter how many alternate generations or metamorphoses may intervene.

APPENDIX—*Authors consulted.* — Prof. Munk, of Berlin—Lectures; Aitkin—Practice of Medicine; Smithsonian Institute Reports for 1871; Packard — Guide to Study of Insects; Cobbold — Entozoa; Henry Goadby — Animal and Vegetable Physiology. — *Detroit Review of Medicine.*

THE NEW YORK NEUROLOGICAL SOCIETY.

Reported by GEO. W. WELLS, M. D., Secretary.

A regular meeting of this Society was held in the hall of the Academy of Medicine, 12 W. 31st street, on the evening of February 7th, 1876, the President, Prof. W. A. Hammond, in the Chair.

HYSTERIA.—Dr. John C. Peters read a paper entitled "*Notes on the Clinical History of Hysteria,*" based upon cases of severe spinal irritation, and the so-called "bed cases," in that the patients take to bed, and cannot be got out of it; also, on cases of hysterical paralysis, and hysterical affections of the joints, especially of the knee-joints.

He alluded to the fact that the term hysteria is derived from the word *hysteria* (the womb), in accordance with the ancient belief that the disease originated in an angry and disappointed womb, which, not being allowed to rise in the normal way, tore away from its attachments, like a balloon driven by a high breeze, mounted up through the stomach and bowels, tearing and rolling its way along until it was stopped in the narrowest part of the œsophagus, where it was compressed between the larynx and spine, causing *globus hystericus*, choking, strangling, and often convulsions. This array of symptoms was called "*the rising of the mother* or *womb*, or *strangulation of the womb*, or *fits of the mother.*" This was so common a belief that Shakspeare (quoted by Aitkin) makes King Lear exclaim when Gloster relates the cause of his being put in the stocks:

> "Oh! how this mother swells up toward my heart;
> *Hysterica passio!* down, thou climbing sorrow,
> Thy element 's below."

The uterine origin of hysteria was believed in by Hippocrates, who is made to say that the womb is the seat of 600 real evils, besides innumerable minor calamities; and by Galen, Aretæus, Aettius, Paul of Egineta, Ambrose Pare, Zacutus Lusitanus, Versalius, Morgagni, Sauvage, Cullen, Pinel, Lisfranc, Dubois, Landouzy, Piorry, and many thousands of minor medical lights.

Another early theory was that malignant gases were generated in the womb by the decomposition of blood, mucus, and even semen in sterile women, just as the urine may become ammoniacal and offensive.

Sydenham was the first to locate the disease in the brain and nervous system, and to place great stress upon the antecedents of debility, depressing passions and emotions, sorrow, grief and disappointment in unsettling the balance of the reason and the vital spirits or forces. He gives the case of a very ingenious and intelligent gentleman, who had just recovered from a long attack of fever, in which he had been bled three times copiously and purged repeatedly and severely, while he had been kept on very low diet during his convalescence. He was able to talk sensibly for a short time, when his under lip would be thrust outward and in frequent motion, as often happens in fretful children, who pout before they cry; but soon he was seized with the most violent fits of sobbing and crying that Sydenham had ever witnessed, attended with convulsive sobs and sighs, and violent beating of his breast. He ordered roast meats and wine, and we are told that "by continuing thus to eat and drink, his disorders soon left him."

Sydenham, of course, as such an astute observer and elegant writer would be sure to do, gives us an excellent description of the mental characteristics of hysterical subjects. He says: "Then, unhappiness does not only proceed from a great debility and indisposition of the body, for the *mind* is still more disordered, it being the nature of this disease to be attended with a cunning and subtle kind of almost invincible perversity and despair, so that they cannot bear with patience to be told that there are hopes or means of their recovery; easily imagining and preferring to believe that they are subject to all the mysterious and wonderful miseries that can befall mankind, and presaging the worst and strangest evils to themselves. Upon the least occasion, also, they indulge in wretched fits of terror, anger, jealousy, distrust, and other hateful and disagreeable passions. They seem to abhor hope, and joy, and cheerfulness, which, if they accidently indulge in for a short time, they not only quickly chase away, but these pleasing but fleeting emotions of happiness seem to disturb their minds as much as the more depressing passions do. So that these inconsiderate creatures preserve no agreeable mean in anything, but are constant only to inconstancy. They love the same persons extravagantly at one time, and soon after hate them without cause. This instant they propose doing one thing, and the next change their mind and enter upon something contrary, but without finishing this last, they dismiss it for something else. So unsettled are their minds that they are never at peace with themselves, even in their sleep. Somnolence is, to others, the natural relief from care and disquietude; but to them many troubles and fears arise, for they dream of no pleasant things, but only of funerals, ghosts and misfortunes, and awake to many imaginary sorrows. So much are they distempered in body and mind that it seems they make of this life a purgatory to expiate offences which only some irrational creatures could have committed in a pre-existent state. Nor is this the case only in those who are always hateful and disagreeable, but prevails at times in those who, except when in these preposterous passions, are quite judicious persons, and who greatly excel in profoundness of thought and solidity of speech many of those whose minds have never been disturbed by these tormenting freaks. This very dreadful state of mind is most prevalent in those who have endured great misfortunes, grief, care and disappointments, especially when combined with hard study or anxious thinking, all allied with an ill or weakly state of the body. But it is not uncommon in those who have only imaginary or trivial evils to contend with. It is so common that few women entirely escape it, except such as are born with good bodies, great common sense, and have to work hard, and fare well but plainly. It is also not more remarkable for its frequency than for the numerous forms under which it appears, resembling and imitating in the most marvelous and apelike manner most of the real distempers wherewith mankind is affected. For, in whatever part of the body it takes its seat, it immediately commences to ape and mimic the symptoms which are peculiar to the diseases of that part; so that, unless the physician be a person of judgment and penetration, he will easily be misled to suppose that such urgent symptoms arise from some real or essential disease of this or that particular part, and not merely from the illusory and deceptive hysteric passion."

It is evident that Sydenham regarded hysteria as a form of nervous or mental derangement, and a view that is partaken of by almost all the great systematic writers of the day. Thus, J. Russell Reynolds and many others say that in all hysterical subjects there is a defective or perverted will; an increased activity of emotion; an altered or augmented general sensibility; an exaggeration of all forms of involuntary motility; and curious ideational, emotional and sensational perversions, usually attended with some distinct alteration of the physical health.

Bichat was the first to locate the disease in the ganglionic nervous system—an idea which was once supposed to be corroborated by the discovery of numerous tactile corpuscles of Vaser, Merssner, Wagner, Krause and Paccini, not only on the subcutaneous tissues of the palms of the hands and soles of the feet, but all over the articular surfaces of the extremities, in the substances of the muscles, and in all the great plexuses of the sympathetic nervous system, particularly near the stomach and pancreas, in the mesentery, and near the coccygeal gland. Many pains in the abdomen, resembling peritonitis, colic, ect., were supposed to arise from irritation of these tactile corpuscles, as well as many painful nervous affections about the joints, in the muscles, and various other parts. This view was also supposed to be further strengthened when the small nerve cells peculiar to the sympathetic nervous system were also found present in numbers in the spinal marrow and brain. Lobb is the latest advocate of this opinion. He regards hysteria as essentially an affection of the nervous system, and pre-eminently of the sympathetic.

Dr. Peters divided hysterical subjects into the honest and dishonest—the former worthy of every care and respect, but necessarily requiring very firm mental discipline as well as medical treatment; while the latter were well worthy, as Bence Jones says, of sound whippings, which would do them more good than all the drugs of the pharmacopœia, except the *infusium benedictum*, which is composed of a decoction of tobacco charged with epsom salts. Sousing them with cold water, cramming salt into their mouths, and heavy shocks of the galvanic battery, are mild measures for those who always display the utmost duplicity and cunning, who are deceitful, perverse, and obstinate, and who are always practising, or attempting to practice, the most aimless and unnatural impositions.

Treatment—Niemeyer has recalled attention to the chloride of gold and soda, in doses of ⅛th of a grain. Dierbach, one of the best of the German writers on the materia medica, spoke well of it over 40 years ago. He describes it as exerting a most cheering influence upon the mind, and useful in many cases of debility. As early as A. D. 980, Avicenna recommended it in various nervous affections, such as melancholia, hysteria, palpitations, etc. It was revived in the middle ages by Raimond, Lull, Basil Valentine, especially by Paracelsus, and by John Hartman, the first Professor of Chemistry in Germany, also by Mynsicht, and by others. Hahnemann took his ideas about it from these old authorities, and not from any reliable experiments made by himself. Finally, the name of gold was so much quacked with in the shape of pills made of brick dust and madder, that it was abandoned by all reputable physicians until revived again by Drs. Martini and Niemeyer. The oils of cajeput, chamomile, lavender and orange-peel are said to lower reflex excitability in a remarkable manner, and even to act as antidotes to strychnine. Cocculus indicus and ignatia are said to be more powerful tonics and alteratives than strychnia, and *sumbul* is said by Phillips to be a better remedy for neuralgia of a certain type than any other known medicine. He says it is surprising to note the rapidity with which severe ovarian and other neuralgias will yield to a few doses of sumbul after resisting more powerful remedies.

Dr. Peters illustrated his remarks, which were mainly extemporaneous, with numerous plates of the miscroscopical anatomy of the nervous system.

The subject being open for discussion, Prof. Montrose A. Pallen said he failed to agree with Dr. Peters in many of the views expressed. He thought that gentleman had underrated the amount of knowledge in the possession of the profession relating to the pathology of this affection. Unfortunately for a true understanding of hysteria, we are obliged to reason synthetically rather than analytically with reference to it. There are few *post mortems* made in this affection. We must, therefore, reason from the effects rather than from any known cause. He has been in the habit of dividing hysteria into centric and eccentric varieties. Dr. Peters' division of honest and dishonest cases clearly belongs to that variety of cases which Dr. Pallen had met. In dishonest cases, there is some defective co-ordination of the cerebro-spinal and sympathetic nervous systems. It is a very strange coincidence that the honest or peripheral forms of hysteria occur in women of high intellectual gifts—painters, poetesses, musicians—women of extraordinary mental capacity; yet while suffering under hysterical troubles, they manifest anything but a high degree of intellection. They seem to act at variance with that law which reads: "The higher the intellectual development the less the capacity for sexual and erotic tendencies." It is a peculiar fact that whenever these women manifest hysterical symptoms, they develop sexual and erotic actions, even although they were previously the most immaculate of virgins or the most prudish of married women. It has also been observed that when women suffer from puerperal mania, they usually become more or less profane, although they may be the most refined and religious of their sex. Dr. Pallen thinks that a large majority of cases of hysteria may be traced to ovulation—that the reflex irritability which is manifested by and through hysteria finds its causation in the plexuses of nerves that are distributed in and around the ovario-genital regions. It may ultimately be found that the causation itself proceeds from the pelvic region, reflecting itself upon the brain; although the treatment is at variance with this idea. The so-called antispasmodics have little or no influence over the worst types of the disease. But it is found that in a large number of cases, if a relaxation can be produced by emetics, either by the mouth or subcutaneously, we can bring down this overstrung nervous action. When hysteria exists in women who are laboring from uterine disease, as a general thing it is found that there is an intimate connection between the two. This fact was well illustrated by a case where a young girl, aged 16, became pregnant, and being ashamed of her condition, had an abortion produced upon herself, resulting primarily in endometritis, and finally in hystero-epilepsy. These symptoms manifested themselves at no time during the menstrual period *other than while ovulation was taking place.* The patient got well only after the irritating fluid was allowed free exit, which was accomplished by division of the cervix and internal os. The dysmenorrhœa was cured from that time, but the hysterical symptoms continued until the patient married and became pregnant. The causation of this case was undoubtedly ovulation. In regard to treatment, he could say but little, but he had frequently found that if the irritability attendant upon ovulation could be relieved, the patient would get well. In general, he would say that the only treatment which he has found useful is that which lessened pelvic congestion, pelvic inflammation, and the counteraction of those irritated and irritable conditions formed in and about the genitalia of the female.

Dr. J. Marion Sims thought that Dr. Pallen had foreshadowed the future pathology and treatment of hysteria. He had never seen a case of hysteria in a girl before puberty. He did not recollect having seen a case after the menstrul functions had ceased. He believed, however, that such cases might have occurred. He had no doubt that hysteria is a reflex phenomenon ; but whether the mental, moral or physical qualities are affected, whether it results in almost dementia, with great depression of spirits, or whether in violent eclampsia—he thought the origin of them all is to be found in the generative apparatus. He thought the time would arrive when no book would be written upon hysteria in the abstract ; it will rather be spoken of as a symptomatic manifestation of some ulterior trouble.

Prof. Isaac E. Taylor would accept what Dr. Peters had said regarding the pathology of the disease. He did not, however, agree in all respects with the views expressed by Prof. Pallen. He related several cases in support of the ground which he took. One of a paresis of the 8th pair of the nerves, manifesting itself by continued regurgitation of whatever food she might take. She was treated by chloroform inhalations ; she retained her food without difficulty, and in a few days was as well as ever.

Prof. Wm. A. Hammond thought that it must be admitted with Dr. Peters that the location of the cause of hysteria must be referred to the cerebro-spinal nervous system. Although this assertion could not be demonstrated by the usual method, still analogy enables the investigator to form a tolerably correct opinion. Hysteria furnishes no opportunity for the study of morbid anatomy. He had been very much interested with the allusion to the physiology of the pneumogastic nerve made by Dr. Taylor. It was strongly corroborated by what he had witnessed in the case of a lady who had a tumor taken by him from the neck. It was deeper than had been anticipated. The cavity was filled with lint in order to stop the bleeding. In two hours she was seized with violent vomiting and palpitation of the heart. There was a regurgitation, but no vomiting. He did not see her until morning—Dr. T. M. B. Cross having been in attendance during the night. When he arrived (having been sent for), he removed the plug of lint, and *immediately* the distressing symptoms ceased. He referred to an anæsthetic condition of the fauces and pharyngeal regions, which he characterized as pathognomonic of the affection. Relative to the treatment of hysteria, he was unable to offer many suggestions. He relied very much upon the bromides in its management, especially the bromides of potassium, sodium, calcium and zinc. He had had great success in their use. Of course, there are cases of hysteria which cannot be cured by any remedy. He thought that in the treatment of hysteria the element of faith in the physician was a strong point.

After a few desultory remarks, the meeting adjourned.

REMARKS ON A NEW ATTEMPT TO ESTABLISH THE TRUTH OF THE GERM THEORY.

By H. Charlton Bastian, M. A., M. D., F. R. S., Professor of Pathological Anatomy in University College, etc.

The abstract of Professor Tyndall's communication made to the Royal Society on Jan. 13th, and of his discourse at the Royal Institution on the following week, has been published in two journals, and it is evident that he seeks to exert a powerful influence on public opinion generally, as well as on the medical profession, against the possibility of what is termed "spontaneous generation," and in favor of the germ theory of disease. Any views on this subject coming in a very emphatic form from so distinguished a cultivator of physical science, were likely to attract much attention, so that it especially behooved him to look carefully into the present state of knowledge concerning it. It is, moreover, incumbent upon others to weigh his views and conclusions upon their own merits, and not to be unduly influenced by his great reputation and the authoritative mode in which his opinions are uttered. The formation of correct notions upon this subject is of enormous importance both as regards the science and practice of medicine.

It will be found, however, more especially necessary to scrutinise Prof. Tyndall's conclusions on this subject, because he has based them almost wholly upon his own experiments, and has made a very insufficient reference to, and apparently a very insufficient study of, the previously recorded work of other investigators.

His own experiments are divisible into two categories. First, he studies the results of exposing previously boiled organic infusions to the influence of ordinary air; and, secondly, the effect of exposing similar infusions to pure air—that is, to air deprived of the particles which it usually contains in suspension.

The determination to abide by the isolated results of his recent investigations is seen, in a remarkable manner, even in reference to those of the first series. Organic infusions were gravely placed in the hands of the President of the Royal Society, of Mr. Darwin, Mr. Hirst, Sir John Lubbock, and other friends not very far from London, to be exposed by them to the air of the places in which they lived. Though Prof. Tyndall "had no reason to doubt the general diffusion of germs in the atmosphere, he thought it desirable to place the point beyond question." Noting, by the way, that for the word "germs" the cautious reader should substitute "atmospheric particles," it may be stated that the infusions entrusted to these eminent persons became turbid in the ordinary manner. Thus Prof. Tyndall had the satisfaction of getting additional confirmation of a fact which is almost as well known to those whom it concerns as that the letter B follows the letter A in the alphabet. He, too, now regards it as established that previously boiled organic infusions will sooner or later putrefy on exposure to ordinary air.

We come next to Professor Tyndall's second series of experiments. In these, infusions similar to those of the first set, as well as others of a different nature, were exposed to air which had been deprived of its particles by allowing them to subside within certain rather elaborate, closed chambers. In all cases such protected infusions remained pure; hence, Professor Tyndall concludes, as M. Pasteur concluded fifteen years ago, that atmospheric particles, commonly known as "germs," are the sole causes of putrefaction in boiled organic fluids. It follows, therefore, as a corollary from this doctrine, that such fluids when effectually guarded from contact with atmospheric dust will remain permanently pure and free from living organisms.

So far as the results themselves go, they are quite familiar, and their occurrence has been well attested by numerous antecedent workers. It is widely recognized that many organic infusions will remain barren when, after previous boiling, they are kept from contact with atmospheric dust; and any experimenter could, without much difficulty, in the course of a few months, obtain five thousand of such results, and add them to the five or six hundred recently obtained by Professor Tyndall. But what end would be gained thereby? The explanation of these experiments is easy. The fermentability of the infusions yielding such results is destroyed because the process of boiling kills all the living germs they may have contained, and at the same time impairs the virtues of the dissolved organic matter. Hence it happens that in the absence of exciting agencies, in the form either of mere unheated organic fragments, or of actual living germs dropping into them from without, they will remain for an indefinite time free from any very appreciable changes. The germ theorists attribute the barrenness of the infusions solely to absence of living germs, while their opponents say it may be owing just as much to the absence of the unheated organic particles forming part of the organic debris which enters so largely into the composition of atmospheric dust. * * * *

In contrasting his own results with mine, Prof. Tyndall further says, more or less explicitly, that he has strictly adhered to the experimental conditions prescribed by me, and it is because of his failure to get positive results in the experiments of his second series (which he regards as comparable with mine) that he now proclaims "spontaneous generation" a chimera, and my experimental results to have been vitiated by error. But looking to my works, "The Modes of Origin of Lowest Organisms" (p. 67), and "The Beginnings of Life" (vol. ii., p. xxx.), where directions are given concerning the manner of conducting the experiments, I find it stated very prominently that after the infusions had been boiled they were subjected to "a temperature of 80° to 95° F. during both day and night." Now, Prof. Tyndall's mode of strictly imitating these conditions is to maintain his own infusions at "a temperature of 60° to 70° F." But the maintenance of the infusions at a sufficiently high temperature after boiling is of immense importance. I have, indeed, recently found that some infusions, which remain sterile within hermetically sealed vessels at 90° F. or higher, may not unfrequently be made to putrefy if exposed for a few days to the still higher temperature of 115° F.

In the preface to the smaller work above mentioned I said, in 1871:—"In these experiments with heated fluids in closed flasks nothing is easier than to obtain negative results. The same kinds of infusions which—if care has been taken to obtain them strong enough—will in a few days teem with living organisms, often show no trace of living things after much longer periods when the solutions are weak." Now, looking to the very striking manner in which Prof. Tyndall has departed from the experimental conditions which he professes to have followed in respect of temperature, how is it possible to have full confidence that he has prepared the infusions in the manner prescribed? For my own part, I feel no assurance that he has bestowed sufficient care upon them—that is, so as to obtain them of adequate strength.

It will have been seen that one of the principal differences as regards facts existing between Prof Tyndall and myself is on the question whether there are or are not certain organic infusions which, after boiling, can be made to putrefy on exposure to pure air. He, arguing from the basis of his own imperfectly conducted experiments, declares that he has not met with such fluids, while I and others affirm that many fluids of this type exist, some of which are in the strictest sense self-fermentable, since they will ferment or putrefy not only when protected from atmospheric dust, but when shut off in a sealed vessel away even from contact with pure air.

From my work entitled "Evolution and the Origin of Life," published in the winter of 1874, Professor Tyndall quotes the following passage from p. 94:—"We now know that boiled turnip or hay infusions exposed to ordinary air, exposed to filtered air, to calcined air, or shut off altogether from contact with air, are more or less prone to swarm with bacteria and vibriones in the course of from two to six days." Then he himself adds: "Who the 'we' are who possess this knowledge is not stated." Prof. Tyndall thus tends to convey the impression that the possibility of obtaining such results is not known and acknowledged by well-informed men of science. Immediately afterwards he refers to experiments of his own in which (doubtless from such causes as I have already indicated) he was unsuccessful in obtaining similar results, and from the doubly insecure basis of his own lack of learning and want of attention to prescribed conditions, he comes to the conclusion that I have been deceiving myself and others in making such statements. He refers, moreover, to a statement of mine made last year in opening the debate "On the Germ Theory of Disease" at the Pathological Society, to the effect that carefully prepared infusions of muscle, kidney, and liver would, after a time, become corrupt within vessels which had been hermetically sealed while the fluids were boiling. (See Transactions of the Pathological Society, vol. xxvi., p. 272.) Professor Tyndall made, in his own fashion, many experiments of this kind; and he records one hundred and thirty-nine failures to obtain such results as I have indicated. He says, with crushing severity, "not one of this cloud of witnesses offered the least countenance" to the truth of my assertions.

Now, if it did not concern so grave a question, all this would be truly laughable. It certainly seems far more like burlesque than the sober pursuit of science. But since Prof. Tyndall says he does not know who can be comprised under the "we" which I employ in the quotation above given, and as he consequently does not tell his readers, it seems desirable, now that the question is asked, for me to try to enlighten him: they may not require it.

Some of the various methods of testing the behavior of boiled organic fluids when kept free from atmospheric particles are mentioned in the passage quoted by Prof. Tyndall, and his own method of subsidence belongs to this series, which, more fully stated, would stand as follows:—

(*a*) Making the air pass through red-hot tubes—calcination.

(*b*) Making it pass through cotton wood or a plate of porous porcelain —filtration.

(*c*) Allowing atmospheric particles to gravitate—subsidence.

(*d*) Making air pass into flasks through long and bent necks,—filtration and subsidence combined.

(*e*) Getting rid of air and its particles by sealing the neck of vessel during ebullition of the fluid—expulsion.

I now subjoin a list of investigators who, by experimenting in one or more of these ways, have come to the conclusion that certain fluids exposed to such conditions will putrefy—although Prof. Tyndall thinks they ought all to remain pure. What explanations these investigators severally give of the facts they record are questions which need not now detain us, since it is the facts themselves which Prof. Tyndall ignores, and in effect denies:—Schwann, 1837; Mantegazza, 1851; Schroeder and Dusch, 1854; Schroeder, 1859 and 1862; Pouchet, 1859 and 1864; Pasteur, 1862; Joly and Musset, 1861 and 1862; Victor Meunier, 1865; Hughes Bennett, 1868; Cantoni, 1868; Bastian, 1870, 1871 and 1872; Burdon Sanderson, 1873; Huizinga, 1873; Lankester and Pode, 1873; Roberts, 1874; Samuelson, 1873; Gscheidlen, 1875.

I have set down the names in order of time, and included my own amonst them, because those mentioned after me have all confirmed my results with regard to the putrefaction of some fluids in hermetically sealed vessels from which the air has been expelled by boiling—the very experiments, in fact, which Professor Tydall (like one awaking from a three years' sleep) now endeavors to impeach by his own one hundred and thirty-nine failures.

Dr. Burdon Sanderson's well-known corroboration of the accuracy of my results may be here reproduced. He says: "The accuracy of Dr. Bastian's statement of fact with reference to the particular experiments now under consideration has been publicly questioned. I myself doubted it, and expressed my doubts, if not publicly, at least in conversation. I am content to have established—at all events to my own satisfaction—that, by following Dr. Bastian's directions, infusions can be prepared which are not deprived, by an ebullition of from five to ten minutes, of the faculty of undergoing those chemical changes which are characterised by the presence of swarms of bacteria, and that the development of these organisms can proceed with greatest activity in hermetically sealed glass vessels from which almost the whole of the air has been expelled by boiling."—(*Nature*, Jan. 8th, 1873.)

And if Prof. Tyndall and others wish to know how far these results have since been generally recognized as correct, reference may be made to a review of my work "Evolution and the Origin of Life," by Dr. Burdon Sanderson, in the *Academy* of July 10th, 1875. There, in reference to the confirmation which these experiments had received, and in relation to other work in connection with the question generally by S. Samuelson and Gscheidlen, Dr. Sanderson writes: "As regards the trustworthy character of the experiments themselves, it will probably be a sufficient guarantee to most readers that they have been conducted under the immediate supervision of men like Pfluger and Hoppe Seyler, who occupy the foremost rank as vital physicists. Those who are more especially interested in the subject will best satisfy themselves of the exactitude and completeness with which all the investigations have been carried out by reading for themselves the original papers."

Although Dr. Sanderson thus thoroughly recognizes the fact (and knows that others do the same), that many boiled fluids will putrefy in closed vessels from which air has been expelled by boiling, it is well known that he is not willing to regard such facts as the proof of the occurrence of spontaneous generation." He admits, indeed (*British Medical Journal*, February 13rd, 1875, p. 201) that I and others have shown that bacteria, in their "ordinary state," are killed by a temperature of about 140° F.; but, instead of accepting "spontaneous generation" as an explanation of the occurrence of living organisms in the vessels above referred to, he pleads in favor of the only other possible explanation—viz., a "latent vitality" in some bacteria germs not extinguishable by exposure for ten minutes or so to the influence of boiling water. I felt it my duty to refer to this hypothesis in my address at the Pathological Society last year (*loc. cit.*, p. 273); but whatever its worth may be, Dr. Sanderson, whose learning and knowledge of the whole question few will dispute, knows that this, or some such hypothesis, alone stands in the way of the acceptance of "spontaneous generation" as a proved reality.

Professor Tyndall, however, seems to regard this hypothesis as beneath his notice. He makes no sort of reference to it, and agrees with me in thinking that bacteria and their germs are decidedly killed by five minutes' boiling in organic infusions. He still further supports the view held by me in opposition to that of M. Pasteur, that such a result follows both with alkaline and with acid infusions.

This may seem to many of my readers a rather farcical finale, when compared with Prof. Tyndall's own anticipations, but I feel thoroughly assured that those who understand the subject will see that, in the present stage of the controversy, no other conclusions of value are deducible from his recent experiments. He appears to have completely misapprehended the present state of knowledge on the question, has uniformly failed to obtain results which are now firmly established, and, as regards the only question which is at present in dispute, he unhesitatingly coincides with me. If, as Prof. Tyndall believes, and as his experiments seem to show, bacteria and their germs are killed by boiling them for five minutes, nothing remains but for us to shake hands over the establishment of the occurrence of "spontaneous generation," and the overthrow of the Germ Theory of disease. I shall be heartily glad to take leave of the subject, as I have now little leisure available for following up questions of this kind, upon which I have already bestowed so much time and labor.—*London Lancet*, *Feb.* 5, 1876.

CHEMISTRY AND PHARMACY.

Transformation of Brucine into Strychnine.—M. Sonnenschein has discovered that brucine may be converted by the oxidizing action of nitric acid into strychnine, and that, on the other hand, strychnine may be converted into brucine by the prolonged action of alkalies at an elevated temperature. These facts have obvious bearings upon medico-legal investigations in which either of the alkaloids named is the object of search, although the two poisons are so nearly identical in their toxical properties that the confounding of one with the other could seldom interfere with the ends of justice.

Hydrocyanic Acid.—It is generally believed that prussic acid cannot be detected in the body, if the examination be deferred many days. Sakoloff has recently shown the possibility of detecting it after an interval of twenty-two days (in dogs to which had been administered about half a grain of the anhydrous acid). The contents of the stomach were distilled with dilute sulphuric acid, the prussic acid, however, not passing over with the first portions of the distillate. This confirms the observation already made that hydrocyanic acid in the body becomes converted, during the process of putrefaction, into a double cyanide (sulpho-cyanide ?), not readily decomposed by the stronger acids.

Glycyrrhizate of Ammonia.—Under the above name, Mr. Wm. Arthur (*Druggists' Circular*, January, 1875) describes a soluble preparation which presents, in a concentrated form, the virtues of licorice root. The following is the process by which it is obtained :

R.	Licorice root, bruised	℥xvi.
	Water of ammonia,	
	Cold water, aa	q. s.
	Sulphuric acid	℥iij.

Place the licorice root in a jar with a close fitting cover, pour upon it six pints of water and one fluid ounce of water of ammonia, and allow it to macerate forty-eight hours. Drain off the liquid, and wash the root with two pints of water. Mix the washings with the infusion ; when the impurities have settled, decant, heat to boiling, and filter. To the filtrate add the acid slowly, and after forty-eight hours decant the fluid from the precipitated glycerrhizin, wash it thoroughly, and dissolve in the smallest possible quantity of water of ammonia diluted with an equal bulk of water, and pour the syrupy liquid obtained upon plates of glass to dry. The product is in the form of thin amber-colored scales, readily soluble in water, and of an extremely sweet taste. The yield from a pound of good root is about one troy ounce.

A NEW GENERAL ANTIDOTE.—J. Jeaunel (*Annales de Hygiene*, April 1875) recommends the following as an antidote which should be kept constantly prepared by druggists :

Persulphate of iron solution (density 1.45)	100	parts.
Water	800	"
Calcined magnesia	80	"
Animal charcoal	40	"

The iron solution should be kept in a separate bottle from the mixture of the other three substances, and should be added to it immediately before using.

This mixture acts as a perfect antidote to arsenic, and is preferable to the ferric hydrate, because the latter deteriorates upon keeping. It also acts as a perfect antidote for compounds of zinc and digitaline, and nearly so for those of copper. It delays considerably the action of salts of morphia and strychnia, and to a slight extent that of compounds of mercury. It has no virtue in counteracting the effect of cyanide of mercury, tartar emetic, hydrocyanic acid, phosphorus or the caustic alkalies.

A freshly prepared mixture of the sulphide of iron, magnesia and sulphate of sodium, acts as a perfect antidote for salts of copper, corrosive sublimate, and cyanide of mercury.—*Boston Medical and Surgical Journal.*

ARTIFICIAL PREPARATION OF UREA.—C. A. Bell (*Chemical News*) gives the following simple process for preparing urea artificially. Mix intimately four parts of perfectly dried and finely powdered potassium ferrocyanide with three parts of pulverized potassium bichromate. Place a small quantity of this mixture in a porcelain or iron dish, and heat until a tinder-like combustion takes place and the mixture blackens. Add the remainder of the mixture in small successive portions, allowing each to become completely blackened before adding the next. The operation is completed in a few minutes, and results in the formation of a quantity of potassium cyanate, which is easily extracted from the porous carbonaceous residue by boiling alcohol.

It is necessary, however, to be at the trouble of separating the cynate, if the preparation of urea is our ultimate object. We may extract the black residue simply with very cold water, filter the solution, and add cautiously barium nitrate as long as a precipitate (barium chromate) is formed ; filter once more, and add to the solution four and one fourth parts of ammonium sulphate, which will undergo double decomposition with the potassium cyanate. Finally, evaporate to dryness, when the ammonium cyanate will be transformed into urea, which is readily extracted from the residue by boiling alcohol.

COMPOSITION OF CERTAIN POPULAR NOSTRUMS —

Walker's California Vegetable Vinegar Bitters.—Each bottle contains from nineteen to twenty fluid ounces, consisting of a decoction of aloes and a little gum guaiac, anise seed and sassafras bark, in water slightly acidulated with acetie acid, possibly the result of secondary fermentation, or added in the form of sour cider. Each bottle contains also about one ounce of Glauber's salt, one-quarter of an ounce of gum arabic, and from one-half to one ounce of alcohol. (Eberbach, Hoffman, Nichols.)

Brandreth's Pills.—Each box contains twenty-four or twenty-five pills, each weighing about two and one-half grains. The twenty-four pills consist of ten grains of podophyllum root, ten grains of extract of the same, thirty grains of the extract of poke berries, ten grains of powdered cloves, from two to five grains of gamboge, traces of Spanish saffron, and a few drops of oil of peppermint. (Hager.)

Radway's Ready Relief.—This is a light brown liquid, consisting of eight parts of soap liniment, one part of the tincture of capsicum, and one part of aqua ammonia. (Hager, Peckolt, Hoffman.)

Radway's Renovating Resolvent.—Each bottle contains about six fluid ounces of a vinous tincture of cardamom and ginger sweetened with sugar. (Hager.)

Pierce's Golden Medical Discovery.—Each bottle contains one drachm of the extract of lettuce, one ounce of honey, one-half drachm of the tincture of opium, three ounces of dilute alcohol, and three ounces of water. (Hager.)

Pierce's Favorite Prescription.—A greenish-brown turbid liquid, consisting of a solution of one half ounce of sugar, one drachm of gum arabic, in eight ounces of a decoction made from two drachms of savine, two drachms of white agaric, one and one-quarter drachms of cinnamon, and two drachms of cinchona bark ; to this mixture are added one-half drachm of tincture of opium, one-half drachm of tincture of digitalis, and a solution of eight drops of oil of anise in one and one-half ounces of alcohol. (Hager.)

Van Buskirk's Fragrant Sozodont.—A red liquid consisting of a solution of one-half drachm of white castile soap in one ounce of alcohol, three-quarters of an ounce of water, and one-quarter an ounce of glycerine, colored with cochineal, and flavored with oils of wintergreen, cloves and peppermint. The powder which accompanies each bottle consists of a mixture of precipitated chalk, powdered orris root and carbonate of magnesia. (Wittstein, Hoffmann.)

The above are taken from Hoffmann's "Popular Health Almanac," a publication which is meant to serve as an antidote to the numerous almanacs distributed broadcast through the country as a means of advertising various patent nostrums.

NEW GALVANIC BATTERY.

Dr. B. F. Dawson, of N. Y., exhibited a new galvanic-caustic battery, devised by him, and demonstrated its power by heating platinum knives and coil.

The advantages claimed over other batteries lie in the principle of construction, and the means for preventing and overcoming what is known as "polarization" of the battery, the occurrence of which in all small batteries has heretofore rendered them unreliable and useless. The battery is composed of but two cells, in each of which are two positive (zincs) and one negative (platinum) plate, all measuring but 4½ by 6 inches. The zincs are perforated, and adjusted but half an inch apart, and between them a platinum plate is placed and held in position by uprights. On each side of the platinum plates are hard rubber or celluloid pumps or agitators, worked by means of a small knob. The entire battery requires but a quart of fluid, with which amount it will keep up a most powerful action, long enough for the most prolonged operation, by the moving up and down of the pumps, which, according to the intensity of the heat desired, are moved more or less quickly. By this action the old and exhausted fluid between the plates is thrown out through the perforations, and fresh fluid is made to take its place, thus keeping up a uniform power equal in intensity and constancy to that obtained from the large imported batteries. In consequence of its power it has been found necessary to make special platinum cautery instruments, of heavier metal, to accompany this battery. The entire battery, with polished wood case, measures 8½ inches in height, 6 inches in width, and 4 inches in depth from front to back.

Dr. Dawson also showed a new handle and conductor, with insulators to prevent the current from burning the vagina.

Dr. Noeggerath said that he had used Dr. Dawson's battery, and was astonished at its power; he had used it for thirty minutes, and found it to work better than any other battery of its size. The great objection to it, however, which he was afraid would be difficult to overcome, was the intense heat generated in the fluid, which boiled over on the table after twenty-five minutes.

Dr. Dawson said that he had hoped to obviate this difficulty by putting lead on the top and bottom of the platinum plates, that now on the sides of the plates apparently not being sufficient to abstract the heat from the platinum.

NEW TREATMENT AND PROPHYLAXIS OF SCARLATINA--IODIDE OF POTASSIUM.

Dr. J. P. Walker, of Mason City, Illinois, says of iodide of potassium, that it appears to possess the most remarkable powers over the whole course and sequelæ of scarlatina as well as over many other specific diseases. During 1873 and '4, he with Drs. J. W. Spear and J. H. Walker, saw over 250 cases of all grades of the disease, of which not one died where the method of treatment was adopted at the outset, and very seldom did they have more than the first fully developed case in the same locality. When called to a child 1 to 5 years old, with the early signs of the disease, Dr. W. at once bathes the whole body in a warm solution of corbonate of soda, and greases the child--head and feet—with old salt bacon grease. Also, takes potas. iodid. drach. 1; syr. scillæ, ounces 2; tinct. verat. virid., drops 3. M. S.—Half teaspoonful, more or less, according to age, every second hour until temperature is greatly abated--the doses to be gradually decreased. At the same time apply a piece of hot salt fat pork around the throat, from ear to ear—to be taken off, heated and re-applied every three or four hours. Also, gargle as often as possible equal parts of a saturated solution of common salt, cider vinegar and honey. This practice he has adopted for the past 15 years, without having had a single case of abscess about the throat, or dropsy, when the treatment was early begun and propertly continued. But in a few cases, so mild as to require the thermometer to detect fever, the treatment was discontinued in spite of his opposition, and general anasarca ensued; but this yielded readily to iodide of potassium and squills, with chalybeate and vegetable tonics.

While the above treatment is being carried out, Dr. W. orders every one in the family exposed to the disease to take, according to age, 3 to 20 grains of iodide of potassium daily, until the desquamation is completed in those cases where the rash has appeared. This he has found to act excellently as a prophylactic.—*Med. Brief.*

RAPID CURE OF ACUTE RHEUMATISM WITH SALICYLIC ACID.

The first number of the *Berliner Klinische Wochenschrif* for the new year contains an article on the treatment of polyarthritis rheumatica with salicylic acid, containing such interesting statements, and emanating from so high an authority as Professor Traube, that we hasten to give some account of it to our readers The cases occured in Traube's clinic, and are reported by one of his assistants, Dr. Stricker. The latter states that for several months past all the patients affected with acute rheumatism in whom the local symptoms were well marked, have been treated with salicylic acid, and that in all cases at the end of forty-eight hours, frequently much sooner, there was not only a return to the normal temperature, but also a complete disappearance of swelling, redness, and particularly of pain in the joints. Dr. Stricker proclaims boldly that the experience which he has obtained in these cases cannot be attributed in any way to chance, and that salicylic acid must therefore, entirely apart from its antipyretic action, be looked upon as having a specific action on acute rheumatism, and affording a means of the radical cure of the disease.

It is quite important that a pure pulverized acid should be obtained. When carefully prepared and pure, the crystals are very white and glistening needles, without smell, and soluble without cloudiness in water and alcohol. In this form it can be given in large doses without disturbing the digestion. It is administered in a wafer, to protect the mucous membrane of the mouth and pharynx from dryness and burning, which sometimes follow contact with the crystals, The dose is from one-half a gramme to a gramme, or seven and one-half to fifteen grains, and is given every hour until the diseased joints can be moved without pain. To effect this it may be necessary to administer as much as fifteen grammes, never less than five grammes. This treatment produces increased perspiration, tinnitus aurium, and deafness, and rarely some mental exhilaration, symptoms which hardly contraindicate its use. The treatment should be begun early in the mornings and is occasionally complete before night. In one case an enthusiastic patient took, without leave, twenty-two grammes in the space of twelve hours without the slightest gastric disturbance. Meanwhile the tongue, which was heavily coated, had cleaned up, and the lost appetite returned. The effect of the drug upon the secondary inflammations, particularly those of the pericardium, have not yet been sufficiently studied, the material for that purpose not having been adequate. The whole number of cases thus treated is but fourteen ; the effects of the treatment are so uniform, however, that the profession is strongly urged to try it. This method has, we believe, also been carried out by another Berlin physician with success. The first of the Stricker's cases only is given in the number of the journal to which we have referred ; the account of the others will follow. In this case there was considerable elevation of temperature, while several phanlangeal joints of the left foot, the left knee, the shoulder, and the wrist were slightly reddened, swollen, and exceedingly painful. The patient had been sick several days; treatment was begun in the evening, and by the following afternoon all the joints were well, while his appetite had returned with great vigor.

Although the data are far from sufficient to establish the claim made for the drug in the treatment of the disease in question, the name of Professor Traube furnishes an indorsement to the facts which does not permit them to be treated lightly. We shall await with much interest the report of other cases and the results of a general trial of the remedy, which will be sure to follow this somewhat startling announcement. In the mean time it would be well, keeping in mind the experience with regard to the "Lœstorfer corpuscles," not to let our expectations be raised too high.

CAN MAN, OR ANY OTHER ANIMAL, EXIST WITHOUT A LIVER?

Mr. Editor.—The question, as above propounded, has been suggested to my mind by a circumstance in the case of a hog that came within my own immediate observation. Several years ago, I had a "pen" of very fine, fat hogs. I was at that time paying some attention to farming. Among the hogs I noticed a very large sow, which did not fatten or thrive quite as kindly as some others, though in every other respect I saw no difference. She ate as heartily as the others, and seemed to evince every indication of good health. Indeed, she was, as I thought, ordinarily good pork. But one morning the servant who attended to the feeding of my hogs reported the "big sow" as being dead in the pen.

Thinking that possibly she died from some organic disease which might interest me as a medical man, I had her "opened," and I carefully examined the condition of every organ. I found everything apparently as healthy and as normal as I ever saw, *except the liver*, which was almost entirely absent. The whole parenchyma of the gland was gone—nothing remaining but a fibrous net-work, similar to that of a piece of seine. There was no discoloration of the skin incident to the absorption of bile; neither had there been any constipation at all attributable to a want of biliary secretion. The crude ingesta appeared to have been undergoing in the alimentary canal all that natural metamorphosis necessary for assimilation. There was nothing in the brain to give evidence of congestion or other abnormal condition whatever; the kidneys were both intact, and from the quantity of urine found in the bladder, it looked as if they had performed their part with fidelity. But when I came to examine the urine proper, I found, by the application of heat, and the subsequent coagulum, that it was highly albuminous.

Now the question, as a physiological and a pathological one, is, what was the immediate cause of the sudden death of this animal? Of course, the true and unmistakable remote cause was that the system was deprived of the necessary functions of the liver. But why, with seeming tolerably good health, was it cut off so abruptly? From the complete and thorough disintegration of the organ, it was evident that the animal had lived for some considerable time without it, and had doubtless learned to adapt itself to the condition; hence, with all the signs of general good health, with the exception that it did not fatten as kindly as some others of the flock, I see no reason why it should have died so suddenly, after sustaining itself under the condition that existed for so long a time.

I have no doubt that people are frequently similarly affected; and for want of information, because of lack of autopsy, we are often in the dark for a true theory regarding the nature of the cases which have been lost.

But I fear that I will reap the jeer and ridicule of my profession by submitting the facts of a pathological question as having existed in the vulgar economy of a hog; and while I know we can't make a "silk purse out of a sow's ear," yet, paying attention to phenomena of disease, no matter where found, we may be able to draw conclusions beneficial to an animal of more dignified pretensions. And while I am not a *real* Darwinian, I recognize a homology in the animal kingdom, so far as tissue and physical adjustment are concerned. Hence, I hope diseased action, as detailed in the case above, will be read by some with interest. E. C. BARRETT, M. D. *Jerusalem, Va.*, 1876.—*Va. Med. Monthly.*

WHY THE TEETH DECAY.

The causes of the decay of teeth have hitherto been a matter of doubt, but the investigations of Leber and Rottenstein throw considerable light on the problem. They recognize constitutional differences in teeth, rendering some more sensitive than others to the influences that favor decay. These influences are not so much internal and vital, as external and chemical. Decay begins at the surface, and there it must be checked if checked at all. It is chieflly caused by acids, and by certain fungus, the *Leptothrix buccatis*, found abundantly in the mouth. Under the microscope the fungus appears as a gray, finely-granular mass of matrix, with filaments delicate and stiff, which erect themselves above the surface of this granular substance, so as to resemble an uneven turf. The fungus attains its greatest size in the interstices of the teeth. All acids are taken with food, or in medicine, or are formed in the mouth itself by some abnormality in our secretions, which should be alkaline, or by an acid fermentation of particles of food. But acids alone will not account for all the phenomena of caries in the teeth. They play a primary and principal part, making the teeth porous and soft. In this state, the tissues having lost their normal consistency, fungi penetrate both the canaliculi of the enamel and of the dentine, and by their growth produce softening and destructive effects much more rapid than the action of acids alone can accomplish. Bowditch, in examing forty persons of different professions, and living different kinds of life, found in almost all of them vegetable and animal parasites. The parasites were abundant in proportion to the neglect of cleanliness. The means ordinarily employed to clean the teeth had no effect on the parasites, while soapy water appeared to destroy them.

We may remark that it is several years since attention was first called to this fungus of the mouth, and its possible influence in causing the teeth to decay, but the investigations of Leber and Rottenstein appear to have settled the question without a donbt. The "moral" is, that if we would preserve our teeth we must keep them scrupulously clean, and must use soap as an ingredient in our dentrifices or in addition to them. It is not necessary to employ any of the so-called "dental soaps." We have found by experience that the imported white castile soap, which is probably the purest soap made in the world—a fact worth remembering in other connections—is quite tasteless, or at least has no unpleasant taste. Rub the wet tooth-brush over a piece of this soap before dipping it into the dentifrice you use, and you have the most perfect combination for thorough cleansing of the teeth and destroying the obnoxious fungus. We assume of course, that the dentifrice itself is not one that injures the teeth, as many of those in common use do.—*Jour. of Chemistry.*

ON APHASIA AND CHOREA IN GENERAL PARALYSIS.

DR. CLOUSTON (*Journal of Mental Science*, October, 1875) remarks that various nervous symptoms occur from time to time in the course of general paralysis that closely imitate many of the neuroses of sensibility and motion, such as neuralgia, amaurosis,locomotor ataxy, glosso-pharyngeal paralysis, hemiplegia, apoplexy, and epilepsy. In two cases the ordinary symptoms of aphasia were present for a short period in one stage of the disease. In the first the aphasia came on once soon after the commencement, when the motor and mental symptoms were very mild. The patient, a man, was not exalted or excited, and had had no congestive or epileptic attacks. The first signs of the disease were headache, dullness, depression, causeless fear and suspicion. About eight weeks after, it was noticed that he could not speak properly when asked a question. He clearly understood and tried to answer, but could not. He could get out one syllable, but no more. When asked the name of an article he could not give it, or gave the wrong, *e. g.*, called a chair a hat. There was much tremor of the lips and tongue. Next day he was quite free, but a fortnight later on had another attack of similar character and duration, and then became silly and soon excited with exalted delusions. At the same time the right side became more paralyzed than the left. In the second case the aphasia was complete, and occured after an epileptiform attack in the beginning of the disease. When aphasic he knew what was said, nodded his head and looked pleased, but could not say a word. This lasted for a few days and then passsed off. The motor paralysis was in no degree unilateral. The case of unilateral chorea happened in a lady with slowly advancing and mild symptoms of the disease. She could only go up or down stairs with difficulty, and mentally was in a state of happy enfeeblement. She had a congestive attack beginning with stupor, going on to convulsions of the right leg, arm, and face, with a temperature over 100°. The convulsions came and went for a few days, leaving the side paralyzed when they were not present. When they finally disappeared the paralysis was complete, but in a few days the power of movement came back, first in the legs and then in the arms. When she moved her left arm it jerked about as in chorea, and when she tried to speak the muscles of the face and tongue on the left side twitched, while the articulation was that of a bad case of chorea. The choreic movements of the face have persisted. Muscles supplied by the seventh nerve are most affected, all the facial masseters twitching. The sixth nerve is markedly affected, also the third; the fourth apparently is not. The glosso-pharyngeal and spinal accessory nerves are affected, as shown in swallowing. Her speech is inarticulate. The sensory nerves and the pneumogastric do not seem to be affected.—*London Med. Record*, Jan. 15, 1876.

BELLADONNA IN ASTHMA—Dr. Lamadrid says: "To get the good effect of belladonna in asthma, it must be given in heroic doses. I usually apply the tincture of the United States Pharmacopœia, in doses ranging from twenty to sixty drops. The strength of the tincture differs so much, as commonly kept in the shops, that the size of the dose must be lost sight of, and quantity given regulated by the effect produced. It may be given during the paroxysm with great advantage, best when given before the attack commences. For example, if the patient has noctural attacks coming on after midnight as is usual, give him a dose just before going to bed, and repeat it if necessary to produce sound sleep. He fails to awake at the usual time for the attack to commence, and sleeps on, awakening in the morning very much refreshed and strengthened. The treatment may be repeated night after night, until sufficient time has been had to remove the tendency of the disease to return, either by changing its location or adopting other requisite treatment, as the case may call for. I could relate several cases to prove the above statements, but will have to omit them for want of space.

Sometimes, but not often, belladonna produces dryness of the fauces and delirium. These are indications which show that it should be discontinued and hydrate of chloral should be employed in its stead. It may be used on the principle as belladonna to produce sleep, and thus ward off the attack—*Med. Brief.*

HÆMOPTYSIS TREATED WITH ERGOT.—Dr. Jas. M. Williamson has made a fair trial of this drug in the treatment of fifty cases of hæmoptysis, and with encouraging success. The ergot was given invariably by the mouth, and in the form of fluid extract. Forty-minim doses may be administered twice within the first hour, and, guided by the results, at least every two hours afterwards, the dose being diminished and given less frequently as the hemorrhage subsides. No disagreeable effects were observed to follow, even when large doses were given at short intervals; but, he says, that if four or five full doses make no distinct impression upon the hemorrhage, the remedy should be abandoned for another. This treatment proved ineffectual in only six out of the fifty cases.—*Lancet.*

Microscopy.

THE BLOOD.

During the flow of blood through the capillaries, only the fluid elements pass uninterruptedly out of the latter into the tissues, and out of these, in a modified condition, back again into the vessels, but most probably red and especially white globules normally leave the capillaries to reach the adjacent lymphatics or tissues. This transmigration takes place only where the blood current is sluggish. It takes place without injury to the vessels, in a manner as yet unknown. The wandering red globules mostly again return into the circulation through the lymphatics. The white globules which have wandered out, form all or the greater part of them, in the various tissues, the so-called movable or wandering connective tissue corpuscles, mucous corpuscles, salivary corpuscles, the corpuscles of the serous cavities, perhaps also the round corpuscles known in the gray and white substance of the central nervous organs. They probably return again into the blood in the same way as the red globules. Consequently the fluid as well as the corpuscular elements of the blood have a double way of return from the capillaries to the heart: on the one hand, by the veins; on the other, by the lymphatics.

* * * * *

Under various conditions which always cause a congestive hyperemia, the number of migrating white globules increases very considerably, and gives rise to suppuration. *Pus corpuscles,* so called, *are for the greater part migrated white globules.*

The white globules, which have the properties known in the dead state, show, when alive, a peculiarity which explains the foregoing facts, and besides is of importance for physiology and pathology; they are contractile.

The contractility of the white globules, and of the corpuscles identical with them, is shown in the examination of living animals (footweb and mesentery of the frog, certain mammals), of freshly dissected animal parts.

(connective tissue, cornea), of fresh globules in proper menstrua (natural liquid transudations, weak solutions of sugar and common salt, etc.), and when possible, during examination upon the warm stage of fluids containing such bodies (blood, mucus, saliva, pus). The corpuscles do not then appear round, but present points of various lengths, numbers and forms. Each corpuscle changes its form continually, sending out quickly fine filamentous processes, singly or in groups, which processes thicken at their base and consist of a part of the substance of the cell body. They again retract and disappear without leaving any traces of their existence behind. Sometimes these processes appear on the whole circumference of the pus corpuscle from ten to twenty in number; sometimes tufts of from three to six appear in one or more points of the periphery. The single shoots of the corpuscles may branch again and unite with one another in twisted forms, and then flow together into one broad mass. The corpuscles contain nuclei, which become visible only by means of reagents. They also contain molecular fat and pigment, which change their locality in the cells with their motion (so called *molecular motions*), these motions being most marked where processes are given out from the cells.

The corpuscles exhibit these changes of form as well in liquid connective substances (humor aqueous, serous membranes) as in solid tissues (cornea, connective tissues chiefly), and consequently they wander in them, for the most part in very circuitous routes. Migration is accomplished in the following manner: the cell moss shoots out into processes, then the round end opposite to the process advances with it in line, and then, by a farther elongation of the body of the cell, it moves on still farther. This migration takes place, as already said, not merely through open spaces or cavities of the connective tissue, but also through the walls of the capillaries and small veins.

Contractility of animal cells was observed in the white globules of higher and lower animals by Wh. Jones, Davaine, Robin, Eker, Lieberkuhn, Haeckel; in lymph corpuscles, corpuscles of the spleen, mucous corpuscles, in similar cells in the transudations of serous membranes, etc., by Busk and Huxley, Lieberkuhn, Virchow, Recklinghausen, Oehl, Cohnheim, etc.; in the segmented globules of the frog's ovum, by Stricker; in pigment cells, by Brucke, Virchow, Loth, Huxley and Kolliker; in the cells of enchondroma, by Virchow; in giant cells, by Langhaus, etc.

Colorless corpuscles, by their contractility, are also able to *take up* and *transport foreign substances* (carmine, cinnabar, milk globules, red blood corpuscles, dust of every kind, etc).—*Wagner.*

NOTES ON PAPILLON'S PAPER IN POPULAR SCIENCE MONTHLY, SEPTEMBER NUMBER, 1873.

By S. P. CUTLER, M. D., of Memphis, Tenn.

On page 549, speaking of Mr. Tyndall's, and of Mr. Pasteur's conclusions in relation to the ultimate constitution of matter, it is said: "Let us dissolve a gramme of resin in a hundred times its weight of alcohol, then pour the clear solution into a large flask full of water, and shake it briskly. The resin is precipitated in the form of an impalpable powder, which does not perceptibly cloud the field. If now we place a black surface behind the flask and let the light strike it either from above or in front, the liquid appears sky blue. Yet if this mixture of water and alcohol filled with resinous dust is examined with the strongest microscope nothing is seen.

"The size of the grains of this dust is much less than the ten thousanth of the 1-25th of an inch." I also copy from Mr. Tyndall's Fragments of Science, page 145. Speaking about tinct. of gum mastic precipitated, it is stated, in water. "And now let us push our enquiries forwards. Our best microscopes can readily reveal objects not more than 1-50,000th of an inch in diameter, this is less than the length of a wave of red light. Indeed our first rate microscopes would enable us to discover objects not exceeding in diameter the length of the smallest waves of the visible spectrum. By the microscope therefore we can submit our particles to an experimental test; if they are as large as the light waves they will infallibly be seen, and if they are not seen it is because they are smaller. I placed in the hands of our president a bottle containing Brucke particles in greater numbers and coarseness than those examined by Brucke himself. The liquid was a milky blue and Mr. Huxley applied to it his highest microscopic power. He satisfied me at the time, that had particles of even 1-10,000th of an inch in diameter existed in the liquid they could not have escaped detection."

"But no particles were seen under the microscope, the turbid liquid was not to be distinguished from distilled water." Brucke I may say also found the particles to be of *ultra* microscopic magnitude."

On reading the above statements, in both instances, I at once repeated the experiments with the following results: First, I added a drop of tinct. mastic to a little water, which at once rendered it turbid; of this I put a drop on a slide and adjusted a thin covering glass, and examined it with a 1-5th objective. Instead of seeing nothing in the field more than in distilled water, myriads of minute particles filled the field, in incessant vibratory motion, that never ceased so long as there was any water remaining for them to float in; and when the water dried out the dust atoms could be seen precipitated on the slide, and could be examined as dry dust, unless too thick on the slide. When seen floating in water, they, the particles, appear round and of variable sizes, and, as near as I could measure them, they very nearly corresponded with Mr. Tyndall's measurement of the different waves of the visible spectrum in diameter.

The same results were brought about with resin and alcohol; also tinct. assafœtida, kino, myrrh, sonders, shellac, and many other insoluble gums. There will be some difficulty in making them float in water; by using specimens of variable degrees of dilution I found that the numbers varied with the degrees of dilution; much diluted few were to be seen. On using a narrow angled French 1-16th objective nothing was to be seen, hence the conclusion was that these distinguished observers used too high powers, and the particles were obscured in the fluid. Hundreds of trials were made and with similar results every time, when the specimens were properly prepared.

NOBERT'S NINETEENTH BAND.

By J. Edwards Smith, Ashtabula, Ohio.

By the kindness of a friend I had the opportunity last week of examining one of M. Nobert's nineteenth band test plates.

By the aid of monochromatic sunlight, or that of the electrical lamp, the nineteenth band has been measured by more than one observer; while the resulting mean varies somewhat, the mean of these will give about 112.600 in an English inch.

Although these exquisite rulings by M. Nobert had for years defied the defining powers of the best objectives, and notwithstanding that theories were freely advanced to show the impossibility of their resolution, nevertheless, advancing definition and improved illumination obtained a victory not only over the plate, but also over the theories that were presented to sustain it.

The nineteenth band was conquered, yet neither opticians nor observers were satisfied, they both yearned to see these lines by lamplight. Even this feat was accomplished. In the summer of 1869, the objective used was a one-sixth three system immersion, made by Mr. Tolles, for R. C. Geenleaf, Esq., of Boston, Mass.

The writer, being in Boston at that time, ordered of Mr. Tolles a 1-12th objective, it being mutually understood that it should be able to cope with the 19th band. When completed it was tested over the plate at the residence of Mr. Stodder. Mr. Tolles, Mr. Stodder, Prof. Smith, and myself being present.

Mr. Tolles was the manipulator. After correcting the glass over one of the coarser bands, he rose from the table and requested us to try our luck at the 19th. I remember of making the attempt, and I remember too *my defeat.* Shortly afterwards Mr. Tolles resumed his seat, and in a few moments displayed the lines to our delight and satisfaction, not only with the 1-12th, but also with Mr. Greenleaf's ⅙th.

Since that date Mr. Tolles has repeatedly shown the 19th band with various objectives of his manufacture. As before stated, I have recently had the opportunity to test my new Tolles 4 system objectives over the plate; the 19th band illuminated by ordinary German student lamp, *fitted with a burner carrying a flat wick*, and concave mirror alone, surrendered almost instantly. The lines were displayed vigorously, distinctly, requiring only the simplest manipulations.

Having satisfied myself that I really had the 19th band under observation (a fact only rendered doubtful by the ease with which they were shown), I reversed the programme and *proceeded to test* the rulings. Under the superior 4 system objective this was an easy matter, imperfections in the rulings of the 19th band were manifestly apparent; on one portion of the band the "jump" of the engraving tool is plainly shown, nor were all of these lines regularly continuous, hence it is that the handsomest appearance of the 19th band is presented when viewed with lowest (2 inch) eye piece.

I desire to place on record my conviction that the 19th band is no test for first class modern objectives of "medium power;" that I regard the Moller Probbe platte by far the most severe test.

I am experimenting with a simple modification of the ordinary form of German student's lamp, which gives promise of superior illumination. I hope in the next number of the NEWS to give the details in full.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

The regular meeting of this Society was held on Thursday evening, Feb. 17, and those present enjoyed a very pleasant session.

Mr. G. L. Murdock was proposed for active membership.

Additions to the Library were numerous, and embraced "Memoire sur les

Ascoboles"—Boudier; "Food, Its Adulterations and the Method for their Detection"—Hassal. 3 vols. "Pflazen Physiologie"—Meyer: *Monthly Microscopical Journal* and *Cincinnati Medical News* for January; *American Naturalist* for February; six parts of *Regensburg Flora*; part 30 of *Grevillea*; and four numbers of *Nature.*

The object cabinet was added in the way of nine slides of acari by purchase, a continuation of the series, and by donation from A. Nachet, of Paris, six slides of microscopic lathe work on glass, made by Peurion, of Lille, France. These last were notable and exquisitely beautiful examples of what mechanism is able to do in the hands of adepts in such manipulations; and as the inventor of the machine is dead, and the instrument itself placed away on the shelves of a French museum, these slides are rare and interesting.

An address from the committee of the Boston Society of Civil Engineers was read by the Secretary, which set forth some of the advantages of the metric system of weights and measures, and was sent for the purpose of securing united action in petitioning Congress to fix a date after which the metric system shall be the only legal standard.

The communication called for an expression of views in the matter, and it was unanimously decided to assure the committee of a hearty co-operation in endeavoring to have such a system adopted.

A letter from the Secretary of the American Postal Micro-Cabinet Club to Mr. Kinne, together with the rules of the same, were read by the latter gentleman, and as there seemed to be some utility in the matter, as well as a desire on the part of Eastern Microscopists to have one or more circuits established on the Pacific side of the mountains, several members handed in their names for the purpose.

The Nachet microscope which had been ordered for the Society some time since has been received, and was placed on the table during the evening. Its construction, peculiar in many respects to itself, was examined and commented upon, and certainly sustained the belief that it was built for practical work, and could accomplish it. Mr. Hyde rather astonished himself and all preseut by resolving *Nitzchia curvula*, No. 19 of Moller's test slides, not only into definite lines, but *beads*, with its No. 5 (or 1-8th) objective, which has no collar adjustment, and using the one-inch ocular. Obliquity of light was obtaind by Nächet's oblique condensor, and there was no mistaking the result, which Messrs. Hyde, Ashburner and Kinne stated was better than they had been able to get, so far, in the Society's new 1-10th of Tolles, thongh they had obtained very satisfactory results in the way or well-defined lines in the same diatom.

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AN ENGLISHMAN WHO DOES NOT READ AMERICAN JOURNALS. — In an English journal, for March, Mr. Wenham, of London, says: "I do not read the American journals, and any thing appearing in them concerning myself must remain unanswered. A recent one has been sent me by a friend, which contains an anonymous letter from an eminent (so termed) microscopist of England, who has written much on the subject to a friend in this country (America)."

Several months ago we proved in an editorial that Mr. Wenham was so unfortunately constituted mentally that it was impossible for him to state a fact correctly, and gave a number of incidents in illustration. In this last statement by him we have another illustration of the truth of what we said. He certainly read the "recent one," and we can mention quite a number of other copies of the same journal that in times past he has mentioned as having read.

But really Mr. Wenham's mind has been so "torn up" for so many months by an *American lens* that we can easily imagine that he has not *felt* much like reading any thing, whether printed on this or the other side of the Atlantic. If all he has had to say about it in the organ of his society was published by itself, it would make a very respectable sized volume. In almost every article he has protested that it should be his last, yet he is still "harping on my daughter." We ourself would advise him to abstain from the perusal of American journals until he has disposed of the American lens. Too much of one sort of diet is not healthy.

WE have no doubt our friend, Prof. J. Edwards Smith, whose articles teem with the wonderful exploits of Tolles' 4 system, duplex front glasses, will be taken aback when he reads in the proceedings of the S. F. M. S., published in this number of the MEDICAL NEWS, that the No. 5 (1/8) objective of Nachet resolves better than the famous 1-10th immersion of Tolles. He will probably be disposed to quote what we said in an editorial some months ago, and assert that this is an evidence of its correctness, namely: that an inexperienced microscopist can see more with an inferior glass than with a very fine one. But will the gentlemen of the S. F. M. S. be willing to be thus classed?

THE ECONOMIC MICROSCOPE.—The Messrs. Beck, of London, have recently constructed a microscope expressly to surpass the continental instruments in convenience, quality, and price, and have designated it the "Economic Microscope." We were recently shown one of them, and were highly pleased with it. It is a beautiful stand with two very good objectives (1 inch and 1/4 inch), very much superior to the common French lenses of the same powers, and is suitable for all the work of the amateur and physician. It can be had of James W. Queen & Co., of Philadelphia, for $45 and $55 according as it is furnished or not with rackwork for coarse adjustment. The fine adjustment and everything else is the same in both varieties.

Correspondence.

J. A. THACKER, *Editor Medical News:*

PARIS, Feb. 15, 1876.

When M. Marey first devised the cardiagraph, the Profession did not look upon it as a very valuable instrument. It was exhibited to classes more as a curiosity than otherwise. Even the author himself failed to perceive at a glance the volume of truths which have since grown out of it. In ordinary hands, the cardiagraph is an ordinary instrument, but under the keen eye and deft manipulation of Marey its work is beautiful and complete. Every afternoon at the College de France, the Prof. and his able and experienced assistant, M. Frank, are at work in their laboratory, and an experiment is seldom performed unless the cardiagraph takes part in it. The study of the simple trace has been exhausted long ago, and now his attention is occupied with the effect of various medicines upon the organ. A frog, for instance, is pinned to a cork stage, and a dose of woorara, strychnia, atropia or other poison is administered hypodermically. The heart is then exposed and placed between the two little plates of the instrument, which with every revolution are pushed apart, moving the delicate pen, and making the trace. It is so arranged that a current of electricity can be sent through the organ at any time of the diastole or systole, which, in the normal heart, has a very striking effect indicated, beautifully, by the long straight line in the trace. In this way M. Marey not only determines the action of these different agents on the heart as a whole, but also on its peculiar muscular fibre, and the nerves with which it is supplied. To show the peculiarities of the turtle's heart, I saw him carry on a complete circulation of defibrinated blood through a system of glass tubes for hours at a time. The glass tubes simply connected the heart with the reservoir, which was placed at an elevation of two feet above the former. Once the heart, unconnected and without blood, while between the two plates of the instrument, ceased to beat. His quick eye noticed it. Removing it, he exclaimed, "no wonder, it is as cold as ice," and being held between the finger and thumb for a momet, it resumed its work. In his lectures he is at present discussing the influence of the pneumogastric nerves upon the heart, and though every work on physiology contains a chapter on this subject, he has still something new to offer. The difference between the right and left nerves would escape most men, but Marey dwells particularly upon this point, finding a more speedy, easy and effective road to the organ through the right pneumogastric. The traces of all his experiments are preserved and pasted in large books, many of which may be seen around the laboratory.

I witnessed a novel occurrence two weeks ago at the Ecole de Medicine. M. Chauffard, a member of the Faculte de Medicine, was about to recommence his course after having been interrupted some months ago by the most cruel treatment from the students.

At the time I knew nothing of the former difficulty, which was so aggravated that the government interfered and stopped the school for three weeks, during which time the building was in the hands of the military. It was with the greatest difficulty that I pushed through the crowds of students on the stairs and in the doorways, but on reaching the amphitheater, I found plenty of room down in front. M. Chauffard made his appearance, and was greeted with the most terrific yells, which lasted for several minutes. The Professor reproved them sharply, and was insulted many times for his pains. He commenced his lecture, but was interrupted as often as he commenced. He threatened to withdraw, but that did not repel them; and after making about a dozen such threats, he took his hat and left the room. My inquiries as to the cause only elicited the reply that he was a strong Catholic legitimist, and very unpopular with the students, who are almost universally liberal republicans. M. Chauffard continues his course now, but a guard stands at the door, and requires every one to show a ticket of approbation. M. Robin has been elected senator.

R. B. D.

Dr. J. A. Thacker, *Redacteur Medical News:*

The "queer incident," illustrative of "diagnostic acumen," related in the March number of the Medical News, recalls to memory another "incident" in the history of a distinguished *savant* of the medical profession, which occurred many years ago at St. John's Hotel des Invalides, when under the superintendence of Mary O'Connell. The young surgeon on the Medical Staff in charge of the female wards of that *maison de saute*, on going his round one morning, found a new "admit"—female patient—awaiting examination and treatment. She exhibited similar abnormal abdominal distention as your dropsical patient. After a thorough examination the young surgeon diagnosed—ovarian tumor of an unusual size, and resolved on its removal *secundum artem*. As it was a rare opportunity to display his brilliant surgical skill, he invited the "class" to witness the operation on the following morning. Prompt to the hour the young surgeon was on hand, with a full assortment of "instruments of precision," when lo! he was informed by the House Physician that the woman had been safely delivered of twins!

Wonderful "diagnostic acumen" was it not? This "incident" of by-gone years is known, probably, to but few M. D.'s of the present day — perhaps that "Nestor" of the profession, Dr. M. B. Wright, who has assumed fearful responsibilities in a half century of obstetric practice, could reveal all the features of the "case" in *extenso*, and whether the brilliant diagnostician ever dazzled with his genius the "I. X. L—XX—1819–1876" institution. This young surgeon of "diagnostic acumen" afterwards went "abroad" and turned up in England, where he won a European reputation by his exhaustive investigations in the sphere of "Female Anatomy," as viewed from Hyde Park corner, London.

Cincinnati, March 1876. LOCOMOTOR ATAXY.

Book Notices.

A MANUAL OF GENERAL PATHOLOGY, for the use of Students and General Practitioners of Medicine. By ERNST WAGNER, M. D., Prof. of General Pathology and Pathological Anatomy in the University of Leipsig. Translated from the Sixth German Edition by JOHN VAN-DUYN, A. M., M. D., Prof. in Syracuse University, and G. C. SEGUIN, M. D., Prof. in the College of Physicians and Surgeons, New York. 8vo, pp. 728. New York: WM. WOOD & Co. Cincinnati: R. CLARKE & Co., 1876.

That the very learned work of Wagner upon general pathology is now presented to the English reader in the English language will be met with pleasure we have no doubt. Probably there is no work extant that contains the results of so extended research and of so profound study in pathology as this. All the extended and most improved modern means of investigation have been made to lend their assistance in developing the minute and extensive knowledge we have presented to us in this volume.

The work is divided into four parts. Part first is devoted to the consideration of General Nosology; part second to General Etiology; part third to General Pathological Anatomy and Physiology; part fourth to Pathology of the Blood.

We have no doubt the work will meet with a welcome from every lover of medicine, physician and student. In our Microscopical Department we give an extract upon the blood.

A TREATISE ON SURGERY, Its Principles and Practice. By T. HOLMES, M. A., Cantab. With 411 illustrations, 8vo. pp. 960. Philadelphia: HENRY C. LEA. Cincinnati: R. CLARKE & Co., 1876.

This work, as the author states, is intended to be to some extent an introduction to the more elaborate system of Surgery of which he is the editor. It will be found a most excellent epitome of surgery by the general practitioner who has not the time to give attention to more minute and extended works, and to the medical student. In fact we know of no one we can more cordially recommend. The author has succeeded well in giving a plain and practical account of each surgical injury and disease, and of the treatment which is most commonly advisable. It will no doubt become a popular work in the profession, and especially as a text book.

Editorial.

Cincinnati College of Pharmacy.—The Annual Commencement Exercises of this institution took place in College Hall, Thursday evening, March 9th. The attendance was quite large indeed —the house being filled to its utmost capacity by both ladies and gentlemen, friends of the institution and of the young gentlemen who received their diplomas.

The exercises were opened by prayer by the Rev, Henry D. Moore. After prayer, the President, Mr. F. L. Eaton, proceeded to confer the degrees upon the graduates, fourteen in number. Mr. S. A. Miller, of the Cincinnati bar, then delivered the address on behalf of the Board of Trustees. Presentation of medals by the Professors followed, and award of Alumni Prize by Mr. Jos. H. Feemster, President of the Alumni Association. On behalf of the Faculty a very excellent and instructive address was delivered by Prof. E. S. Wayne. Mr. Wm. Rendigs was the valedictarian of the class, and acquitted himself in a most creditable manner. After a presentation of one hundred dollars to the Board of Trustees from the class by Mr. Chas. H Angevine as a nucleus of an endowment, the exercises were closed with the benediction by Rev. Henry D. Moore.

The following is a list of the graduates : Chas. H. Angevine, Ottawa, Illinois; Anton Boehmer, Cincinnati, Ohio ; Chas. Diehl, Cincinnati, Ohio ; Geo. T. Greer, Cincinnati, Ohio ; Emil Heun, Cincinnati, Ohio ; J. A. Koller, Tiffin, Ohio ; H. J. Marshall, Aurora, Indiana ; William Rendigs, Cincinnati, Ohio ; E. M. Roberts, Cincinnati, Ohio ; J. W. Rossiter, Cincinnati, Ohio ; Edward A. Schmidt, Cincinnati, Ohio ; W. G. Sheickner, Cincinnati, Ohio ; C. D. Wangler, Cincinnati, Ohio ; Albert Wetterstroem, Chillicothe, Ohio.

After leaving the Hall the trustees, faculty, graduates, and invited guests adjourned to a neighboring room where a sumptuous banquet had been prepared for them. The study and *proving* of medicines during the long winter months did not seem to have injured the appetites or impaired the digestive power of any one, for every one laid hold and ate with such a heartiness of the many good things upon the overloaded tables as to convince every one that the study of pharmacy is not injurious to these functions.

Toasts were read and responded to by Messrs. Wayne, Judge, Fennel, Miller, Eaton, Reamy, Thacker, Schmidt, Greve, etc. etc. After the toasts songs came in order, and quite a number were sung by different gentlemen. Altogether the exercises were of a most pleasant and entertaining character.

The Cincinnati College of Pharmacy, we are happy to say, is in a most prosperous condition. The faculty, consisting of J. F. Judge, M. D., Prof. of Chemistry ; A. Fennel, Esq. Prof. of Pharmacy ; and E. S. Wayne, M. D , Prof. of Materia Medica and Botany, is a highly capable one. The number of students is largely on the increase.

Accident to Prof. Miles.—On the 7th of March, Prof. Miles met with a severe accident which resulted in breaking both of his arms above the wrist. In jumping from a street car, as it was rounding a corner, he was struck by the rear end of the car and hurled with great force upon the pavement.

We are happy to be able to say that he is improving rapidly, and will probably recover without suffering any permanent damage to either arm.

WOULDN'T FLY. — The I. X. L — XX — 1819–1876 institution, the "oldest and best" medical college, was under the necessity, at the late Commencement Exercises, to draw in its kite [Keyt]. It wouldn't fly. Probably the tail had too much weight and the upper part too little. A diet of beans and plenty of sleep may often be sufficiently productive of wind to blow an individual up to the pinnacle of fame without being compelled to toil up the steep ascent, burn the midnight lamp, and eat fish for brain food, but sometimes unless there is a little regard to ballasting—the brains, what there is of them, not in the wrong place—" down will come baby, cradle and all."

MEDICAL COLLEGE GF OHIO.—Prof. Roberts, Bartholow, Dean of the Medical College of Ohio, took occasion at the late Commencement Exercises of his institution to make derogatory remarks of the other regular medical colleges of Cincinnati, and of the West generally. He seemed to desire to impress his audience with the belief that the Medical College of Ohio was the only well established institution of medical education of this city or even of the West.

Undoubtedly, in times gone by, the Medical College of Ohio held a very enviable position, and graduated many who have attained to a high rank in professional distinction ; but those were during the days when Drake, Morehouse, Cobb, Mitchel, Harrison, Locke, Wright, etc., composed the faculty. The institution, then, owned the college building it occupied and the ground upon which it stood, like other first class institutions. But how is it now ? Who are the faculty at this time ? Why they are mostly young men, recent graduates, and adventurers who, by their erratic and undignified conduct, have placed their college almost among the quack institutions. In fact, the gentlemen who compose the faculties of the irregular schools are far more modest, and dignified in their behavior.

Whatever high position the Medical College of Ohio may have held in times past it holds no longer, and from circumstances that have transpired, will never hold again. There is not a first class medical college in the United States that does not own the building in which it gives instruction, and probably more or lesss other property. The Cincinnati College of Medicine and Surgery owns the handsome property it occupies, and so does also, we believe, the Miami Medical College. The building once owned by the Medical College of Ohio has been sold at sheriff's sale (not a man of the faculty having the means to buy it in), and it now does not own a cent's worth of property except may be a little rubbish, *yclept* a museum, and a few dirty bottles and cracked jars in that impossible chemical laboratory, with pictures of which we are regaled in the annual quarto announcements. The lectures are given in rented rooms of a building mostly devoted to the sale of produce and manufacturing purposes. *In hoc loco jacet* I. X. L—XX—1819–1876 institution, "the oldest and best college." Here it will continue to remain blowing its own horn with its expiring breath, speaking great things of itself, until the constable will set its rubbish in the street for non-payment of rent when it will utter its last shriek, to shriek no more forever.

It would be difficult to form a company of medical gentlemen in Cincinnati having so little financial ability and so little able to contribute money from their own pockets to erect a college building as the company of doctors composing the present faculty of the Medical College of Ohio. Conducting their college on the sensational plan, they have adopted the sensational plan in their private practices (riding in two horse carriages with liveried driver, and employing a thousand other means of quackish display) with the result of being in a condition of helplessness at a time when a little money would be needed to assist in a time of adversity; and there is reason to believe that times of adversity will take place in the future as they have in the past, when, if the college had not owned the building, which it does not now, it would long ago have ceased to exist.

Dr. Gaillard, editor of the *American Medical Weekly*, of Louisville, speaks of Dr. Bartholow's address as follows:

"Among the many accounts of this familiar scene, that in regard to the final exercises of the Ohio Medical College, at Cincinnati, Ohio, will probably receive most of the amused attention of the Medical Public. Indeed, the following portion of the address of Professor Bartholow, one of the Faculty, is so comic that it is given the benefit of increased circulation; that more may enjoy it and laugh over it; for surely, in the daily routine of a work-a-day life, it is charity to present anything that will bring laughter in the place of gloom, and lighten hours after toil with merriment and pleasure. The extract reads thus:

"'In this city there are five medical schools besides the Medical College of Ohio. It is true the attendance at all of these scarcely equals the matriculation list of this school, but they compete for patronage and maintain a precarious existence.'

"Of course, to a mixed audience, it was well to say something pleasant and something to gratify vanity; but when the whole matter was over, and the speaker remembered the facts given by the catalogues of American medical colleges and those by himself, he must have regarded his statement as a poor and grim joke; and have wished devoutly that he could believe what he had stated."

NATURAL EUTHANASIA.—By the strict law of nature a man should die as unconscious of his death as of his birth. Subjected at birth to what would be in the after-conscious state an ordeal to which the most cruel of deaths were not possibly more severe, he sleeps through the process, and only upon the subsequent awakening feels the impressions, painful or pleasant, of the world into which he is delivered. In this instance the perfect law is fulfilled, because the carrying of it out is retained by nature herself; human free-will and the caprice which springs from it have no influence. By the hand of nature death were equally a painless portion. The cycle of life completed, the living being sleeps into death when nature has her way. This purely painless process, this descent by oblivious trance into oblivion, this natural physical death, is the true euthanasia; and it is the duty of those we call physicians to secure for man such good health as shall bear him in activity and happiness onward in his course to this goal; for euthanasia, though it be open to every one born of every race, is not to be had by any save through obedience to those laws which it is the mission of the physician to learn, to teach, and to enforce. Euthanasia is the sequel of health, the happy death ingrafted on the perfect life. When the physician has taught the world how this benign process of nature may be secured, and the world has accepted the lesson, death itself will be practically banished; it will be divested equally of fear, of sorrow, of suffering. It will come as a sleep. If you ask what proof there is of the possibility of such a consummation, I point to our knowledge of the natural phenomena of one form of dissolution revealed to us even now in perfect though exceptional illustration. We have all seen nature in rare instances vindicating herself despite the social opposition to her, and showing how tenderly, how soothingly, how like a mother with her foot on the cradle she would, if she were permitted, rock us all gently out of the world; how, if the free-will with which she has armed us were brought into accord with her designs, she would give us the riches, the beauties, the wonders of the universe for our portion so long as we could receive and enjoy them; and at last would gently withdraw us from them, sense by sense, with such imperception that the pain of the withdrawal would be unfelt and indeed unknown. Ten times in my observation I remember witnessing with attentive mind these phenomena of natural euthanasia. Without pain, anger or sorrow the intellectual faculties of the fated man lose their brightness. Ambition ceases or sinks into desire for repose. Ideas of time, of space, of duty lingeringly pass away. To sleep and not to dream is the pressing and, step by step, still pressing need, until at length it whiles away nearly all the hours. The awakenings are shorter and shorter; painless, careless, happy awakenings to the hum of a busy world, to the merry sounds of children at play, to the sound of voices offering aid; to the effort of talking on simple topics and recalling events that have dwelt longest on the memory; and then again the overpowering sleep. Thus on and on, until at length the intellectual nature is lost, the instinctive and merely animal functions, now no longer required to sustain the higher faculties, in their turn succumb and fall into the inertia.--*Dr. B. W. Richardson in Popular Science Monthly.*

INTERNATIONAL MEDICAL CONGRESS, PHILADELPHIA, 1876.—The International Medical Congress will be formally opened at noon on Monday, the 4th day of September, 1876, in the University of Pennsylvania, and will continue until the 9th.

The following addresses will be delivered before the Congress in general meeting: Address on Medicine, By Austin Flint, M. D. Address on Hygiene and Preventive Medicine, by Henry I. Bowditch, M. D Address on Surgery, by Paul F. Eve, M. D. Address on Obstetrics, by Theophilus Parvin, M. D. Address on Medical Chemistry and Toxicology, by Theodore G. Wormley, M. D. Address on Medical Biography, by J. M. Toner, M. D. Address, by Dr. Hermann Lebert, Professor of Clinical Medicine in the University of Breslau. Address on Medical Education and Medical Institutions, by Nathan S. Davis, M. D. Address on Medical Literature, by Lunsford P. Yandell, M. D. Address on Mental Hygiene, by John P. Gray, M. D. Address on Medical Jurisprudence, by Stanford E. Chaille, M. D.

Gentlemen intending to make communications upon scientific subjects, or to participate in any of the debates, will please notify the Commission before the first of August, in order that places may be assigned them on the programme.

In order to facilitate debate there will be published on or about June 1st the outlines of the opening remarks by the several reporters. Copies may be obtained on application to the Corresponding Secretaries.

The volume of Transactions will be published as soon as practicable after the adjournment of the Congress.

The Public Dinner of the Congress will be given on Thursday, September 7th, at 6:30 p. m.

The registration book will be open daily from Thursday, Aug. 31, from

12 to 3 p. m., in the hall of the College of Physicians, N. E. corner Thirteenth and Locust streets. Credentials must in every case be presented.

The registration fee (which will not be required from foreign members) has been fixed at ten dollars, and will entitle the member to a copy of the Transactions of the Congress.

Gentlemen attending the Congress can have their correspondence directed to the care of the College of Physicians of Philadelphia, N. E. cor. of Locust and Thirteenth streets, Philadelphia, Pennsylvania.

There is every reason to believe that there will be ample hotel accommodation, at reasonable rates, for all strangers visiting Philadelphia in 1876. Further information may be obtained by addressing the Corresponding Secretaries.

All communications must be addressed to the appropriate Secretaries at Philadelphia. S. D. Gross, M. D., *President.*

William B. Atkinson, M. D., 1400 Pine street, *Recording Secretary.*

William Goodell, M. D., Twentieth and Hamilton streets; Daniel G. Brinton, M. D., 115 S. Seventh street, *American Corresponding Secretaries.*

Richard J. Dunglison, M. D., 814 N. Sixteenth street, R. M. Bertolet, M. D., 113 S. Broad Street, *Foreign Corresponding Secretaries.*

American Medical Association. — The Twenty-seventh Annual Session will be held in the City of Philadelphia, Pa., on Tuesday, June 6. 1876, 11 a. m.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such county and district medical societies as are recognized by representation in their respective state societies, and from the medical department of the army and navy of the United States."

"Each state, county, and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *provided*, however, that the number of delegates for any particular state, territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the code of ethics of the Association."

Secretaries of medical societies, as above designated, are earnestly requested to forward, at once, lists of delegates, in order that the committee of arrangements may be enabled to form some idea of the number likely to be present.

Sections.—"The Chairman of the several sections shall prepare and read in the general sessions of the association, papers on the advances and discoveries of the past year in the branches of science included in their respective sections. * * *"—By-Laws, Art. II., Sect. 4.

Practice of Medicine, Materia Medica, and Physiology: Dr. Francis G. Smith, Philadelphia, Pa., Chairman. Dr. B. A. Vaughan, Columbus, Miss., Secretary. Committee appointed to report to this section—on Clinical Observations: Dr. N. S. Davis, Ill., Chairman, Dr. H. A. Johnson, Ill., Dr. J. B. Johnson, Mo.

Obstetrics and Diseases of Women and Children: Dr. S. C. Busey. Washington, D. C., Chairman. Dr. Robert Battey, Atlanta, Ga., Secretary. Committee appointed to report to this section—on the connection of the Hepatic Circulation with Uterine Hyperæmias, Fluxions, and Inflammations: Dr. L. F. Warner, Mass.

Surgery and Anatomy: Dr. Alonzo Garcelon, Lewiston, Me., Chairman. Dr. E. T. Easley, Dallas, Texas, Secretary. Medical Jurisprudence, Chemistry, and Psychology: Dr. E. Lloyd Howard, Baltimore, Md., Chairman. Dr. V. L. Hurlbut, Chicago, Ill., Secretary. State Medicine and Public Higiene: Dr. R. C. Kedzie, Lansing, Mich., Chairman. Dr. Ezra M. Hunt, Metuchen, N. J., Secretary. Committee to report to this section—On Form of Bill to Establish a National Department of Public Health at Washington. Dr. H. B. Baker, Mich., Chairman. Dr. H. A. Johnson, Ill. Dr. J. M. Toner, D. C.

"Papers appropriate to the several sections, in order to secure consideration and action, must be sent to the Secretary of the appropriate section at least one month before the meeting which is to act upon them. It shall be the duty of the Secretary to whom such papers are sent, to examine them with care, and, with the advice of the Chairman of his section, to determine the time and order of their presentation, and give due notice of the same. * * * "—By-Laws, Art., Sect. 5.

The following Committees are expected to report:—On Mechanism of Accommodation of the Eye: Dr. D. S. Reynolds, Ky., Chairman. On New Remedies: Dr. Austin Flint, Jr., N. Y., Chairman. On the Medical and Surgical Uses of the Aspirator: Dr. E. S. Gaillard, Ky., Chairman. On Influence of Climate on Pulmonary Diseases in Minnesota: Dr. Franklin Staples, Minn., Chairman. On the same in Colorado: Dr. Chas. Denison, Col., Chairman. On the same in Florida: Dr. E. T. Sabal, Fla., Chairman. On proper Legislation to Prevent the Spread of Syphilis: Dr. Samuel D. Gross, Pa., Chairman. On Prize Essays: Dr. Samuel D. Gross, Pa., Chairman. On Necrology: Dr. S. C. Chew, Md., Chairman. On Rank of Medical Corps of the Army: Dr. H. A. Johnson, Ill., Chairman. W. B. ATKINSON, *Permanent Secretary.*

CHINESE MEDICINE.—A Chinese doctor applied for a mandamus to the medical board, to admit him to practice in Melbourne. The Chinese Æsculapius set forth that he was an admitted practitioner in the Chinese Empire, and the great point in his diploma was that he had studied the pulses of the body, both internal and external. When the question was put by the judge as to whether he had studied anatomy, he replied, that there was no need to study that branch of the profession. In China, indeed, the study was forbidden by the religion of the country; but that certain sages had a long time ago (many thousasnd of years) dissected a human body, and left a full description of their operation for the benefit of posterity, of which he had availed himself. His diploma was not allowed.

THE OLD DISTINCTIONS BETWEEN ANIMALS AND PLANTS.—From the mobility of animals, Cuvier, with his characteristic partiality for his teleological reasoning, deduces the necessity of the existence in them of an alimentary cavity or reservoir of food, whence their nutrition may be drawn by the vessels, which are a sort of internal roots; and in the presence of this alimentary cavity he naturally sees the primary and the most important distinction between animals and plants.

Following out his teleological argument, Cuvier remarks that the organization of this cavity and its appurtenances must needs vary according to the nature of the aliment, and the operations which it has to undergo, before it can be converted into substances fitted for absorption; while the atmosphere and the earth supply plants with juices ready prepared, and which can be absorbed immediately.

As the animal body required to be independent of heat and of the atmosphere, there were no means by which the motion of its fluids could be produced by internal causes. Hence arose the second great distinctive character of animals, or the circulatory system, which is less important than the digestive, since it was unnecessary, and therefore is absent, in the more simple animals.

Animals further needed muscles for locomotion, and nerves for sensibility. Hence, says Cuvier, it was necessary that the chemical composition of the animal body should be more complicated than that of the plant; and it is so, inasmuch as an additional substance, nitrogen, enters into it as an essential element, while in plants nitrogen is only accidentally joined with the three other fundamental constituents of organic beings—carbon, hydrogen, and oxygen. Indeed, he afterward affirms that nitrogen is peculiar to animals; and herein he places the third distinction between the animal and the plant.

The soil and the atmosphere supply plants with water, composed of hydrogen and oxygen; air, consisting of nitrogen and oxygen; and car carbonic acid, containing carbon and oxygen. They retain the hydrogen and the carbon, exhale the superfluous oxygen, and absorb little or no nitrogen. The essential character of vegetable life is the exhalation of oxygen, which is effected through the agency of light.

Animals, on the contrary, derive their nourishment either directly or indirectly from plants. They get rid of the superfluous hydrogen and carbon, and accumulate nitrogen.

The relations of plants and animals to the atmosphere are therefore inverse. The plant withdraws water and carbonic acid from the atmosphere, the animal contributes both to it. Respiration—that is, the absorption of oxygen, and the exhalation of carbonic acid—is the specially animal function of animals, and constitutes their fourth distinctive character.—PROF. HUXLEY.

—The *Virginia Medical Monthly* complains of politics interfering with medical appointments made by the Governor of Virginia. It says that, "next to the interference of the state with the affairs of the church, we know of scarcely any thing that should be more emphatically denounced than the interference of the state with existing medical appointments on merely political grounds." This is very sound logic, and applies equally well to several other states and territories besides Virginia. Such interference, however, we imagine will continue so long as doctors are hungry and rings are in power.

VIVISECTION VINDICATED.—There was a loud and passionate outcry a year ago in England, which had its echoes in this country, about the fiendishness of physiologists in their experiments upon living animals. They were represented as devoid of all humanity, indurated and indifferent to suffering, and as delighting to torture poor dumb creatures for mere amusement or class-room show, and on the most frivolous pretexts of helping on the progress of science. There was a great deal of screaming about it, and Hutton, of the London *Spectator*, led the crusade, demanding governmental interference to restrain the brutalities of the scientists and protect the helpless victims of their barbarity. And so, as is wont with the English, a commission was appointed to inquire into the matter, and Hutton was among the commissioners. It was a sensible body, and raked together everything that claimed to be evidence upon the subject. Of course, the stories of horrors which got such wide credence, turned out to be absurd exaggerations. Brought to book, the secretary of the "Royal

Society for the Prevention of Animals" acknowledged that he did not know a single instance of wanton cruelty. The case of the agitators broke down signally, and after the most patient examination of the whole subject the commissioners declare that "a general sentiment of humanity on this subject appears to pervade all classes in this country." They point out how much science is indebted, and how much the world owes, to experiments upon living animals, and they recognize that in the further progress of medical science this means of knowledge cannot be avoided.—PROF. YOUMANS, *in Popular Science Monthly for April.*

SELF-DECEPTION.—But mental prepossessions do much more than this; they *produce* sensations having no objective reality. I do not here allude to those "subjective sensations" of physiologists, which depend upon physical affections of nerves in their course, the circulation of poisoned blood in the brain (as in the delirium of fever), and the like; but I refer to the sensations produced by *mental expectancy*, a most fertile source of self-deception. The medical practitioner is familiar with these in the case of "hysterical" subjects; whose pains are as real experiences to them as if they originated in the parts to which they are referred. And I have no reason to doubt that the "sensitives" of Reichenbach really saw the flames they described as issuing from magnets in the dark—as a very honest and highly-educated gentleman assured me that he did, not only when the magnet was there, but when he believed it to be still there (in the dark), after it had been actually withdrawn. So there are "sensitives" in whom the drawing of a magnet along the arm will produce a sensible *aura* or a pricking pain; and this will be equally excited by the belief that the magnet is being so used, when nothing whatever is done.—DR. CARPENTER, *in Popular Science Monthly for March.*

WAKING DREAMS.—Now, there is a very numerous class of persons who are subject to what may be termed "waking dreams," which they can induce by placing themselves in conditions favorable to reverie; and the course of these dreams is essentially determined by the individual's prepossessions, brought into play by suggestions conveyed from without. In many who do not spontaneously fall into this state, fixity of the gaze for some minutes is quite sufficient to induce it; and the "mesmeric mania" of Edinburgh in 1851 showed the proportion of such susceptible individuals to be much larger than was previously supposed. Those who have had adequate opportunities of studying these phenomena find no difficulty in referring to the same category many of the "spiritualistic" performances of the present time, in which we seem to have reproductions of states that were regarded in ancient times, under the influence of religious prepossession, as results of divine inspiraton. I have strong reason to believe (from my conviction of the honesty of the individuals who have themselves narrated to me their experiences) that they have really seen, heard, and felt what they describe, where intentional deception was out of the question; that is, that they had the same distinct consciousness, in states of expectant reverie, of seeing, touching, and conversing with the spirits of departed friends, that most of us occasionally have in our dreams. And the difference consists in this—that while one, in the exercise of his common-sense, dismisses these experiences as the creation of his own brain, having no objective reality, the other, under the influence of his prepossession, accepts them as the results of impressions *ab extra* made upon him by "spiritual" agencies.—DR. W. B. CARPENTER.

THE

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Original Contributions.

THE THERAPEUTICAL USES AND DOSE OF CALOMEL.

By Z. COLLINS MCELROY, M. D., Corresponding Sec. and Fellow of the Zanesville, O., Academy of Medicine; Physician to the Home of the Friendless, and to the Muskingum County Infirmary, etc.

Reported to the Zanesville Academy of Medicine.

The President has assigned to me a duty, during a part or the whole of the coming year, to report to the Academy whatever may be new or important in practice and special therapeutics. In addressing myself seriously to ascertain exactly my duties, I find much more embarrassment than I would have expected in reaching a conclusion.

Special therapeutics and practice is the application, clinically, of all the knowledge, gradually accumulating, the results of the labors of various workers in anatomy, physiology, morbid anatomy, chemistry, physics, and clinical experiences, in various parts of the world.

The brief mention that such a drug or medicine has been found useful, or has effected a cure in certain diseases, can hardly be called useful knowledge, or mark progress in the *ars medendi.* Clinical experiments, physiological experiments, and clinical and physiological observations, are gradually narrowing the application of certain drugs and medicines to exactness. Many earnest workers are in the field, whose conclusions point in the direction of the unity of all pathological processes and conditions. To be sure, the rank and file of the professions still battle for the *individuality of diseases.* Just now our journals contain many communications on the relations of croup and diphtheria, with the widest possible conclusions, varying all the way from identity to specificity for each. But the weight of testimony is to the effect that there is in some cases a slight anatomical difference in the mode of attachment of the exudation to the mucous surfaces, croupal lying comparatively loose, diphtheritic attached by very delicate fibres to the mucous membrane, or perhaps through it with the subcellular; but in every other respect the processes are the same, differing only in topographical location.

How can I, Mr. President, make my reports without gleaning in other fields, having special workers assigned to them by yourself? It seems to me I cannot do my duty without often encroaching on them. And this leads me to say that the boundaries between the several departments ministerial to practical medicine, are no longer sharply defined lines; they blend as softly and gently as daylight into twilight, and twilight into darkness. With these explanations I hope to be pardoned if found gathering facts from all fields of labor in some of my reports.

The most striking changes from time to time in clinical medicine is administrative, rather than novelties in medicines themselves. Medicines represent ' stored up force," available in the hands of clinicians, in the language of another, " to restrain here, promote there, and so bring about that equilibrium of motion—moving materials—which constitute health."

Thus, who gives digitalis now—that is with the ideals accompanying its administration—as it was given when our older fellows were students? None, unless it be some Rip Van Winkle, covered with mildew from his long nap.

So calomel has held its place in therapeutics for centuries; its use having been at times violently opposed, even to calling into existence sects in medicine, founded only on the single idea of not using it at all. Perhaps the abuse of it was a chief reason for the birth of homeopathy, and its life—a vigorous one in many centres of population—in our day.

I have somehow got to giving much more credit and importance now, than formerly, to the Latin maxim " Vox Populi, Vox Dei," or possibly its fellow, " Vox Populi, Vox justitiæ," *i. e.* that the ultimate judgments of the people are always just.

The people seeing the injurious effects of calomel, as used by the profession, rebel against it. The profession is firm in its position New sects are called into existence to oppose its use. When the profession learns the lesson the people designed to teach, these sects pass out of existence. The people are, after all, the ultimate arbiters in regard to medical practice. If patronage is withdrawn from the regulars, or from any sect, they, or it, must soon pass out of existence.

For some years during my professional life, I think I did not prescribe ten grains of calomel per year. And I could now get along without it if people would have patience with substitutes. But they did not like to take alkalies long enough, nor wait the effects of podophyllin, iodine, etc.; nor would they have patience. But every now and then one would leave me. So, in self-defense, possibly self-preservation, I had to resume its use. But I had become, as I believe, wiser during the period of non-using. It is, to say the least, a wonderfully effecacious agent in the hands of actual working practititoners; and as happily convenient. The ideals now in use in the profession regarding its *modus operandi* are purely scholastic, having little or no representation in nature. Cathartic, chologogue, alterative, deobstruent, etc., are fictions of men. Calomel, as all other " stored up" force in the same material, in the same chemical condition, has but one effect, increased or decreased according to quantity, and time, in its introduction into living bodies. It is material, so far as the metal mercury is concerned—not a natural constituent of living bodies. Its operation is to quicken the pace of the waste of existing tissue. The growth of living bodies has limitations. Flesh, living flesh, which does not disintegrate, performs no natural function. Where such an event takes place in a living body, the result is called a " tumor," " morbid growth" or " hypertrophy." The stoppage of physiological decay of living tissue is death. The retardation of physiological decay constitutes a pathological condition. The pathological condition, so to speak, ceases to be such, when the pace of molecular disintegration is hurried up, no matter by what means, to the physiological velocity. I do not, therefore, now associate with its administration conceptions of "unloading the *primae viae*," "rousing up the secretions," or stirring up the "bile." My concepts are limited to quickening the pace of molecular works, not alone in the abdomen, but throughout the remotest parts of a living body.

I know now that my mistake in early professional life was in too large doses, giving too much at a time, and repeating too often In its employment now, with the better understanding of its effects, I rarely ever give more than half a grain, and not often nearer together than six hours, if the dose is to be repeated. In the bulk of cases the bowels will operate freely inside of twenty-four hours. A failure to do so indicates some modifications of structure in the nerve masses, or muscular structures, *i. e.* partial paralysis, so to speak. Singularly enough I find one of its highest uses to be in delicate and weakly persons, with whom tonics disagree, or fail to work satisfactorily, or to be followed by improvement. Half a dozen granules of half a grain each at from six to twelve hours' interval, seem to get up the requisite speed in molecular changes, followed by the elimination of effete, or dead matter; when tonics will be followed by the desired results, unless there are permanent changes of structure to modify, or wholly prevent them.

There is no higher truth in nature than that function is the expression or language of structure. Paralysis is always preceded by loss of structural arrangement of tissue, muscular, visceral, or nervous. Look into an eye of a blind person who has once had sight, or perhaps I ought to say look at it. Do you see any alterations of structure to account for the loss of function? It used to be said in times *ante-opthalmoscope*, that the "amaurotic eye" had natural structures, and yet was unable to perform function—that is, sight. But the opthalmoscope tells us better now-a-days. Its lesson is, changes of structure for each and every change of function.

But my limits will not allow further illustration. I give, as my judgment, based on a nearly life-long experience, that the dose of calomel for most purposes need rarely exceed half a grain. And when so used, or sometimes in doses very much smaller, its best effects are obtained, and most if not all its unpleasant, not to say needless, effects are avoided.

In conclusion I would ask the fellows of the Academy who use it in larger doses to try the smaller, where it is needed, and it seems to me none of them will be disappointed in results.

A COMPLICATED CASE OF LABOR.

By A. J. McIntosh, M. D., Allendale, Illinois.

In the November number of the Medical News for the year 1872, is detailed an account of a case of complicated labor, by R B. Elderdice, M. D., in which no less than six complications are given. Interesting as his case is, the following, which I find in my memoranda, will, I think, favorably compare with it, and both serve to show the many difficulties that beset the path of the busy practitioner.

Mrs. M. J. A—— the mother of four children, felt labor pains on the evening of the 14th of February, 1873. I was called the next morning, and found her in the following condition: Chronic broncho-pneumonia, in which both lungs were involved; great emaciation, which she stated had been gradually increasing during most of the three preceding months; hectic fever and harassing cough, with considerable muco-purulent expectoration ; abdominal walls greatly distended ; os uteri greatly dilated, and very dilatable ; pains regular but rather feeble. She remained in this condition for some hours, making no progress whatever ; and attributing the delay to the over distention of the uterus, I proceeded to rupture the membranes, and thus expedite the delivery ; but in many and repeated attempts I was foiled. The tenacity of the membranes exceeded anything of the kind that I had ever before met with. I finally succeeded, however, without resorting to instrumental means which I have heard of being done. The waters gushed forth in abundance, the bed was deluged. The feet presented, and in a short time my patient was delivered of a fine looking boy weighing eight pounds. On examination, another bag of waters was found pressing on the perineum, and after a repetition of the difficulty in rupturing the membranes, the bed was again flooded with water, after which the right arm descended, and the shoulder was driven into the pelvis with great force. The pains having ceased, and the parts being well dilated by the birth of the first child, a very favorable opportunity for effecting cephalic version presented itself. This opportunity was not lost, and the attempt was successful, and the mother and child both saved the more painful and dangerous operation of turning by the feet. The patient was now delivered of a female child weighing six pounds. After giving a few moments attention to the children, I returned to the mother who was found to be flooding at a terrible rate, a rate at which, considering her feeble condition, was truly appalling. Her appearance was that of the collapse stage of Asiatic cholera ; the pulse was almost gone, and her chances of life seemed almost hopeless. On grasping the uterus a large mass was expelled which I at first thought to be the placenta, but which proved to be an enormous mass of clots. This gave her relief and for a time arrested the flooding, but it returned again, though less profuse, and during the next half hour I utterly failed in every attempt to deliver the afterbirth. I grasped the uterus, used friction and cold applications, made reasonable traction on one cord and then on the other, gave ergot, and, in fine, used all the usual methods advised in such cases, with but little effect. In about an hour from the birth of the first child I succeeded in delivering one of the placentæ, which did not appear to have any sort of connection with the other. After using all the usual means in vain I felt it to be my duty to introduce the hand and bring away the remaining placenta, and in attempting to do this I discovered a perfect and persistent hour-glass contraction of the womb, with the placenta tightly grasped in the upper chamber. This contraction felt more like a ring of some hard metal, than part of a living being, and was very difficult to overcome. But success finally crowned my efforts, and the hand and placenta were expelled together. There was no adhesion, so far as I could discover, to cause the hour-glass contraction, and whether some two or three drachm doses of the fluid ext. ergot had anything to do with it I am not able to say. The placentæ were unusually small and the cords short. The cord of the girl was very slender, being almost entirely destitute of the gelatinous material which constitutes the principal bulk of the cord, and its vessels did not assume the usual spiral form but were arranged in a tortuous congeries of knots. On this cord was tied a perfect knot, such as are figured and described in the books.

My patient as may be supposed, was by this time greatly prostrated, but, by depressing the head, and elevating the hips, syncope and perhaps death was prevented. The patient rallied, and from this time continued to improve in health and strength until the third day, when she met with a severe attack of peritonitis, the pain of which was of the most excruciating character, requiring large and repeated doses of opiates, and these would rather palliate than give perfect relief. But from this difficulty, contrary to all expectation, she gradually recovered; the pneumonic inflammation gave way and she was rapidly improving in every respect, and I had ceased to visit her, when, from careless management, she was suffered to contract a violent cold, which soon developed a double pneumonia, from which, in a few days, she sank and died, after enduring for many days the most intense suffering that I have ever been called upon to witness.

The complications, or unusual occurrences, presented in this case exceed in number that of any of which I have any knowledge. First, we have from dropsy of both amnii, the great distention of the uterus causing delay in the first stage; second, the unusual tenacity of the membranes; third, malposition and presentation of feet; fourth, presentation of shoulder; fifth, hemorrhage; sixth, hour-glass contraction; seventh, peritonitis; eighth, pneumonia; and finally the patient sank and died from a second attack of pneumonia.

REMARKS ON THE CURABILITY OF INFLAMMATION.

By L. A. Dugas, M. D., of Amerita.

Read before the Library and Medical Association of Augusta Ga.

What is inflammation? If we look to Erichsen for a reply, we find that "the study of the inflammatory process is one of the most complex and difficult on which the surgeon can enter; but the labor required to master its details is well bestowed, inasmuch as an acquaintance with its nature, symptoms, and progress, gives an insight into a greater part of the science of surgery." He then adds: "Yet, as the discussion of this subject belongs rather to the domain of general pathology than to that of practical surgery, it cannot consistently be entered upon here," (p. 87, Am. ed., 1869.)

Turn to Gross, (p. 46, 1872,) and you will find that "inflammation may be defined to be a perverted action of the capillary vessels of a part, attended with discoloration, pain, heat, swelling, and disordered function, with a tendency to effusion, deposits, or new products. In addition to these changes, there is also an altered condition of the blood and nervous fluid as an important element of the morbid process. In what inflammation essentially consists it is as impossible to determine as it is to explain the intimate character of attraction, repulsion, gravitation, or cohesion."

Hear Ashhurst: "Authors, though differing as to the proper explanation to be given of many of the phenomena of inflammation, are, I think, generally agreed that these phenomena are mere modifications of the phenomena of natural textural life," (p. 34.)

It is not necessary to multiply references to authorities, for this would be simply to make confusion worse confounded. No attempt at a mere definition of inflammation can be successful. We must first recognize and study the fundamental physiological functions of the body; that is to say, innervation, capillary circulation, nutrition, and secretion, and we shall find that inflammation always involves a deviation from the normal condition of every one of these functions. While there may be lesions of either of these functions, or of several of them, without inflammation, this *always* exists when the whole are affected. And yet inflammations are not always alike; they differ infinitely, according to their cause and to the structure invaded. Inflammatory affections, so-called, are therefore as numerous and as various as the diseases classed under this head. No two are alike in their manifestation, nor in their history. They differ in causation, in symptoms, in duration, in termination, and in curability. They are, therefore, strictly speaking, entities, and should be more generally admitted to be so. If this general assent could prevail we might dispense with the word inflammation, and allow each entity, or disease, to be judged and treated according to its own or individual peculiarities. But the word has been so long in use, and is so intimately interwoven with our facts as well as theories, that we may not expect to see it set aside in our generation, nor probably in several more of them. With this explanation I will continue its use as a matter of convenience whenever it answers the purpose.

Is inflammation curable?—This may impress some as a ridiculous question, for it is in striking constrast with the dogmatic declarations of of every period of the history of medicine. To intimate any doubt as to the efficacy of the modes of treatment advocated by leading men from Hippocrates to Broussais, would seem to be as preposterous in medicine as heresy is in theology. And yet the extravagancies of Broussais aroused a spirit of inquiry so potent that he lived to see his favorite dogmas, first doubted, and then almost unanimously discarded by the profession. His hobby, that, by depletion, all inflammations could be readily "removed," has now become obsolete, and every one knows that you may draw blood *ad deliquum animi* without curing a mere pimple upon the face, and that the same inefficiency attaches to any other form of antiphlogistic treatment. I wish it to be borne in mind that I use the term *cured* in its strict sense; that is to say, that the inflammatory process was then found to pursue the even tenor of its way in despite of any known form of treatment.

As it was my good fortune to be at the seat of war, while it progressed most furiously between the friends and adversaries of the Broussaisian school, I had abundant opportunities to verify the claims of the respective parties, and became satisfied that the victory was with the opposition, and that inflammation could not be *cured* by antiphlogistics, nor by any other plan of treatment then known. Whenever the inflammation was upon the surface, so as to be seen in its various stages, it was never arrested by treatment, but ran its peculiar regular course to resolution, or to some other of its accustomed terminations. Such being the case with regard to inflammations subjected to ocular inspection, we could not reasonably suppose different results in the progress of inflammations affecting internal organs.

Such are the doctines I continued to teach until about ten years ago; and the object of this paper is to lay before you how my views have undergone a change.

As far back as the introduction of quinine in the treatment of our malarial fevers, which were then considered inflammatory, and treated as such, I was forcibly impressed by the prompt and certain arrest of the disease by this wonderful agent. Could it be that quinine arrested inflammation? Or had we been in error with regard to the pathology of our fevers? The organs apparently implicated were out of sight, and we might have mistaken hyperæmia for inflammation. I became convinced that such was the fact, and the efficacy of quinine was to be found in its effects upon the nervous system, the blood, and the capillary circulation in general, thus bringing about an equalization of circulation and relief of *congestion*, not *inflammation*. There is no lack of evidence that by the timely use of quinine we may *prevent* the development of inflammation in cases in which this would probably have occurred without it. We have also strong reasons for believing that quinine may modify the progress of inflammatory action after its occurrence; but I have yet to see a case, in which inflammation once set up, has been "jugulated" by quinine. It is true that quinine exerts a most beneficial effect upon pneumonia and dysentery, as they prevail in this section of the country, and that it is nearly our sheet anchor in these affections. But this is so because our forms of pneumonia and dysentery, especially when epidemic, are almost invaribly mixed with malarial or paroxysmal fever, which readily yields to quinine, and leaves the inflammatory complication to subside more or less promptly under judicious management.

About ten years ago I found that by applying the tincture of iodine to a furuncle the progress of inflammation was arrested, and was terminated by resolution. Repeated trials were attended with similar results. If applied even so late as the formation of the core, the pain would cease, the swelling would subside, and the core would come away in due time.

You know that furuncles are of two kinds, the one simple and the other preceded by a vesicle, and therefore called the vesicular. From the resemblance of the latter form to carbuncles, I formerly designated them as *carbuncular furuncles*, but now prefer to call them *vesicular furuncles*, because this indicates their anatomical peculiarity. Moreover carbuncles never begin with a vesicle. Vesicular furuncles are much more slow, painful and extensive than simple furuncles, and when they occur on the back of the neck they are frequently mistaken for carbuncles. If you will closely examine them in the initial stage, you will scarely ever fail to detect a vesicle about the size of a pin head, attended with itching, and subsequently with tumefaction and pain. The vesicle is soon rubbed away by attempts to relieve the itching. The vesicle does not reappear, but the inflammation extends through the skin into the subjacent tissue, terminating in suppuration and sloughing.

Now if you apply the tincture of iodine to such cases, in any stage, you may safely expect to put a stop to any further inflammatory action. Both pain and tumefaction will readily subside, and the trying use of the knife be obviated.

I have never had an opportunity to test the efficacy of this treatment in genuine carbuncle, but am strongly disposed to think it might be equally beneficial as it is in furuncles.

But a much more useful application of this treatment is to be found in erysipelas, especially when consequent upon traumatic causes. The relief in such cases is sometimes so prompt as to partake of the marvelous. The last case I treated was that of a man who had sustained an injury to one of his fingers, and came to me with the whole hand greatly swollen, red and painful, with rapidly spreading erysipelas. I immediately gave the entire red surface a th rough painting with tincture of iodine, and advised its repetition in six and twelve hours. He visited me after the third painting, and I found the tumefaction much reduced, no pain, no tendency to spread, and every indication of the rapid subsidence of the disease. He was now advised to use the application only morning and night, and was well in a few days. This plan of treatment may be regarded as specific, when resorted to sufficiently early and in the proper way.

For furuncles and erysipelas I usually direct the painting to be effectually done morning and night—in bad cases three times a day—and gradually discontinued as the disease disappears.

In the sub-cuticular and sub-cutaneous forms of whitlow, I have found the tincture of iodine sometimes beneficial, but not so in the thecal and periosteal varieties. For buboes, whether syphilitic or otherwise, I have no reason to think it prevents or lessens the tendency to suppuration. Indeed I am rather disposed to think I have seen suppuration oftener when it was used than when I resorted to other expedients. This may appear singular when we remember how valuable an agent the tincture is in dispersing some of the chronic enlargements of lympathic glands.

We have endeavored to demonstrate:

1. That no *definition* of the word inflammation hitherto proposed is satisfactory.
2. That the so-called inflammation is a radical perturbation of the fundamental physiological functions, which varies according to its cause and the tissues involved.
3. That inflammations should be regarded and treated as entities or distinct diseases.
4. That at one time it was generally conceded that inflammatory affections were curable.
5. That the ultraism of Broussais instigated a spirit of inquiry, which resulted in the conviction that no treatment then known could be said strictly to cure or to arrest the regular progress of inflammatory action.
6. That this conviction became, with me, somewhat shaken by the introduction of quinine.
7. And finally, that it was demonstrated beyond doubt that some of the forms of inflammation may be effectually arrested by the application of tincture of iodine to the affected locality.

It has been wisely stated that there is nothing new under the sun, and I shall therefore not lay claims to originality which might be controverted by the more erudite; but I must say that my first use of tincture of iodine, as above narrated, was not instigated by knowledge derived from others. If others did the same before, I was not aware of the fact. I have ventured to place this paper at your disposal because I regard the discovery, by whomsoever made, of the fact that some forms of inflammation are undoubtedly curable, as one of the utmost imporance. It not only corrects one of the convictions of the learned, but must lead to further discoveries in the same direction. As one step in advance is only the precursor of others, let us redouble our exertion, in the hope that some one among us may have the honor of contributing the next fact.

FURTHER DISCUSSIONS ON ALCOHOL.

From the London "*Doctor*."

There are few more important questions for consideration by the medical profession at this moment, than that of the position which alcohol occupies as a food or as a therapeutic agent. It is naturally to the medical profession that mankind looks for information upon all points relating to diet and the physical conduct of their lives; and it seems that no more fitting topic could occupy our attention than the one which has again been raised at the Medical Society of London, where a rather brisk discussion was closed on the 10th January.

It is notable, too, that within the last two years there has been a manifest desire to get to the bottom of the question simultaneously in the United States and in Europe. In New York a very long and ably conducted debate on the Value of Alcohol, took place last year, and was carefully epitomised in *The Doctor*.

The therapeutic value of alcohol was thoroughly discussed at the

Brussels Congress. The conclusions arrived at by the Medical Section were as follows :

"The Section is of opinion that the number of indications for alcohol, whether in acute or in chronic diseases, is infinitely more restricted than the over-enthusiastic partisans of this therapeutic agent have pretended. It goes further. In a certain number of circumstances where it has recognized in alcohol a true therapeutic value, its indication may be replaced equally well by other agents belonging to the materia medica ; in these cases the Section does not hesitate to recommend the latter agents, and to proscribe alcohol, fearing lest its introduction, when too frequently made use of as medicine, may constitute, in the eyes of the vulgar, an encouragement to drink, which would derive a considerable value from the scientific authority on which it would rest.

"The sole circumstance which establishes the necessity for the administration of alcohol, and where this agent cannot be replaced by any other, is the presence in the patient of former alcoholic habits. In these cases alcohol becomes indispensable, and constitutes the sole means which permits after it the application of the therapeutic remedies adapted to each particular affection ; it places the patient in the condition where his functions may be accomplished with more or less regularity."

Dr. Richardson's Cantor Lectures have also been reported in *The Doctor* at considerable length ; and besides all this, on several other occasions alcohol has intruded itself into our columns. If, therefore, we get a little weary of this subject, there is, perhaps, some excuse for our frail nature, and we may confess that the last debate might almost have been spared. Still it may do good, and, at all events, must not be passed over, for doctors ought to have distinct ideas on the subject, especially as it is being more and more discussed by the enlightened portion of the public as one of deep social import

Thus, in a long article on the subject of alcohol contained in a recent number of the *Quarterly Review*, it is pointed out in the evidence of policemen, judges, magistrates, clergymen, and other persons conversant with crime and pauperism, how enormous an evil spirit drinking—nay, even that so-called innocent habit of beer-drinking—is at this moment in our civilized country. Our working classes are degraded and besotted to a terrible extent. And curiously enough it would seem that no member of the medical profession was called upon by the Commission of the Diocese of Canterbury, cited by the author of the above article, to give evidence, because there was a general impression that medical men in this country at present are in favor of the habitual use of alcohol both in disease and in health.

The debate at the Medical Society of London was opened by Doctor Lauder Brunton, who advanced nothing new, but enumerated some of the cases in which alcohol is often prescribed, and argued that it is a food, and is to be employed as a stimulant. He was supported on some points by Drs. Broadbent, Bartlett, Symes Thompson, John Brunton, Drury, Fothergill, and Leared, some of whom, however, qualified their support sufficiently to make it of questionable influence. The conversation that took place among the Fellows of the Society shed as much light on the general feeling as the debate—pereaps more—and our impression was that the younger men are favorable to the use of alcohol, while their elders are growing more and more distrustful of it. To return, however, to the debate. The other side was taken up with great spirit by Drs. Drysdale, Lucas, and Edmonds, while others, who did not go so far as to give up the use of alcohol, made observations that went far to support this side.

Thus, Dr. Sibson said a large proportion of his fever cases at St. Mary's Hospital had been treated without alcohol, which was reserved for the time when the pulse was weak ; and as a beverage he seemed to say we always did good when we get men to take claret and water instead of stronger drinks. Again, Dr. Hare, whose experience at University College Hospital and elsewhere has been large, declared that though he used alcohol, he had treated cases of typhoid successfully without one drop, and though he regarded it as given to man to use, not to abuse, declared that it would be better for all if it were at the bottom of the Atlantic than used as indiscriminately as it too often is at present. Dr. Crisp gave equally important testimony as to diphtheria, and Dr. Semple condemned the practice of one physician, who prescribes alcohol still at such a tremendous rate that he seems to have a monomania for it.

We ought, however, to return to the question whether it is a food. On this point the paper was met with a direct negative by Dr. Drysdale, who had also taken the same view at the Brussels Congress. As the other side has been so fully represented, we must not pass this by, and we cannot do better than state it in the terms used by Dr. D. :

" About ten years ago I had myself a discussion on the question of alcohol in fever in the Harveian Society, when Dr. Anstie favored us with his well-known and very interesting observations on alcohol ; taking, I must, however, confess, antagonistic views to those I had put forward in that Society.

" I have never for my part been able to concede in any way that alcohol is a food. The *onus probandi* in this matter clearly lies with such persons as assert it to be so ; because the doctrines with regard to what constitutes food are distinct enough. I apprehend that to be a food a substance must either be albumen, sugar, fatty matter, starch, which is converted into sugar, water, or certain salts. These alone are the constituents of mammalian milk, which is the standard we must always have recourse to when we speak of any article being a food. There is neither alcohol nor ether nor acetic acid in milk ; and hence I cannot see why we are to admit that alcohol is a food, merely because it may be burnt in the blood, as I believe it is, to a great extent.

" My own belief with respect to the behavior of alcohol in the system is as follows : I think that when we inject alcohol into the blood, a portion of it is given off by the breath and in the sweat ; but by far the largest portion is changed in the blood, first into aldehyde and then into carbonic acid. It is changed, I think, ultimately into carbonic acid, a small part of which forms carbonates with the alkalies, and appears in the urine of beer, wine, and spirit-drinkers in the form of carbonates. The rest escapes as carbonic acid by the lungs. This is my belief at present, formed by reading over the literature of the subject, and pondering over the various experiments recently made by chemists both in France and in England.

" M. Maurice Perrin and Dr. Ed. Smith both found that, when alcohol was drunk, the amount of carbonic acid exhaled by the lungs always fell considerably ; thus proving that alcohol is not a useful respiratory food, as starch or sugar is. Moreover, the fact that the temperature falls in animals dosed with alcohol, seems also to indicate that alcohol is the antagonist of a true respiratory food, for, instead of being *rapidly* oxydized, as some seemed to think, it is, on the contrary, *very slowly* oxidized in the blood.

" Alcohol is certainly slowly oxydized, then, in the blood, and it appears to withdraw some of the oxygen which would be far more quickly and advantageously applied in burning carbon, hydrogen, and the other products which are destined to be burnt in the system. It acts not as a wholesale food, then, but partly as a narcotic and perturbative of normal nutrition, and hence ought to be put in its right place—*i. e.*, among ethers and chloroforms and other asphyxiating substances. In the neighborhood of Belfast, in Ireland, ether drinking is in vogue. I cannot look upon the indications for alcohol in disease as often well marked. In ordinary life I apprehend that no one who is a physician at any rate, acts wisely who consumes daily even the smallest amount of alcohol, because physicians of experience know to how many diseases the daily ingestion of alcohol leads, Among these, gout is one of the most insidious. It is, I am convinced from the whole of my professional life, far safer for the mass of mankind to do without any alcohol, than to try what amount they can take and yet lead a life free from the diseases it certainly has the tendency to produce.

" I willingly assent to the observation of many medical authors of repute, that it is impossible to prove that small daily doses of alcoholic fluids are frequently followed by disease ; but I would ask whether it is wise to make on ourselves the experiment what amount of beer daily imported into our system will, in the course of some twenty years, produce gout ? When clinical clerk to Dr. Garrod many years ago, I had very numerous occasions of observing how frequently that painful and dangerous disease is caused even among the operative classes of London, by a consumption of beer within the limits considered by many as the strictest decency. Beer drinkers who consume from two pints of strong beer up to five or six gallons of that fluid daily, are terribly scourged at the decline of life by gout and urinary diseases. The same is true of wine-drinkers in France, as the spectacle of Vichy might impress on the mind of any student of medical science resident there a short time.

" Beer, wine, and spirits are nothing more than dilute mixtures of alcohol, and I apprehend, possess scarcely any other virtues and vices than those it affords. A little aroma may be possessed by one wine, or a bitter taste by tincture of hops; but the main ingredient in all beers, etc., is alcohol, and nothing but alcohol. I don't believe for a moment that the so-called adulteration of beer and wine, about which so much has lately been said in Belgium, does much harm ; what is the main offending agent in strong beer is the alcohol, and I wish, I confess, that London stout and such like favorite beverages could be made with little or no alcohol in them at all. As to spirits, doubtless one of the most unfortunate discoveries ever made by our race was that of the distillation of alcohol from wine. Before that discovery drunkenness was more or less an expensive luxury ; now-a-days it is one of the most disgusting and hopeless aggravations of human misery that we have to contemplate.

" I protest, therefore, as a member of the medical fraternity, against in any way sanctioning the use of alchol in daily life. I should consider myself as committing something like a crime did I advise healthy persons to use alcohol as a food.

" I heartily endorse the conclusion of the Congress of Brussels, and hail the dawn of more careful therapeutics throughout Europe as regards alcohol with much satisfaction. In this country the practice of a late illustrious physician of London is now being followed by a salutary reaction ; and bye and bye we shall begin, I trust, to understand when to use and when to abstain from alcohol in fevers or in pneumonia. At present all I can say is, that I very seldom see fit to prescribe alcohol. Contrary to what has been written in London, I believe that large quantities of alcohol in fever are generally contra-indicated. I am told by Dr. John Harley, whose practice at the London Fever Hospital, joined to his other qualities as an observer, entitle his opinion to all consideration, that he rarely uses alcohol in fever, preferring a milk diet. Dr. Crocq, at the Brussels Congress, said that in the last typhus epidemic at Brussels those private patients treated with brandy in large doses almost all died. One reason for this is that the use of alcohol evidently weakens the tenacity of muscle. An animal fed with alcohol cannot do anything like the work that it could when that substance is omitted (Richardson).

" Total abstainers from alcohol, according to Neison and other actuaries, live much longer than even so-called moderate drinkers. The more intemporate any class is, the worse is the value of its life. Thus, of all classes in the community, except perhaps grinders, publicans and their families are the shortest lived. Then, see the effects of alcohol in cold climates. It is dangerous to partake of alcohol in the Arctic regions; while, again, in the tropics intemperate habits are most fatal. Indeed, the mass of evidence opposed to the supposition that alcohol is a useful food is becoming every day more and more overwhelming, and I feel convinced that the medical practice of future ages will be based upon the wide generalizations gleaned from public statistics and hospital experience of the causation of disease; and that our profession will again, as it did through the mouth of Abernethy, speak out strongly against the use of alcoholic fluids by the masses.

SUDDEN DEATH IN THORACENTESIS.

In order rightly to estimate the blame to be attached to the operation of thoracentesis in cases of sudden death, many of which have been lately recorded as having occurred during or soon after its performance, we must take into consideration the conditions and dangers present before the operation, to remedy which it is performed, and compare them with the perils and disasters attributed to the operation itself. If we regard separately in this manner each of the principal modes of death in thoracentesis—viz., through the heart, lungs, or brain—we may hope to arrive at some useful conclusious which seem especially to be called for now, when there is some risk of a most salutary operation being denounced from too panic-stricken a view of its possible dangers.

The most common cause of sudden death in cases of pleural effusion which have not been relieved by paracentesis is syncope, and we suspect the sudden termination in this way to be more common than is generally supposed. Of the pathological conditions that may be present and dispose to syncope, we must mention not only fatty and other disease of the heart, but also a temporary malnutrition of its muscular substance which arises from the circulation through it of badly arterialised blood. We think that this last named condition has much to do not only with the tendency to faintness, but in rendering such faintness, when it does occur, permanent to death. The degree of this malnutrition of the heart will vary greatly with the degree of cyanosis and of the demand upon nutrition by the fever that is or has been present. Nor must we ignore the type of the disease, whether sthenic or asthenic, serous, purulent, or gangrenous, in reckoning its effect through the nervous system upon the reverse power of the heart. The lungs are not unfrequently the principal organs concerned in the occurrence of death after paracentesis. Such cases do not usually occur without some warning; but the fatal issue may be very rapid. The immediate cause of the asphyxia has been pointed out by Niemeyer and M. Behier to be pulmonary œdema, leading to filling up of the alveoli and small bronchi with serous fluid. The mechanism by which this œdema of the lungs occurs is pretty obvious. On the removal of the fluid from the pleura, there necessarily arises a more or less sudden determination of blood to the capillaries of the expanding lung. This would not, however, suffice to cause suffocation, the same lung having been before in abeyance; but an afflux of blood is likewise caused to the sound lung as the heart and mediastinum return towards their normal position, the same aspiration being exercised upon that lung as upon the other. Thus, as with the heart so with the lungs, the first effect of the escape of fluid is to remove abnormal pressure and to facilitate function; but, when a larger quantity has been removed, and particularly if the affected lung do not readily expand, a danger arises of congestion by afflux of blood, and the consequent production of acute œdema. Towards the termination of thoracentesis in most cases, especially where syphon or aspiration power has been employed, a troublesome paroxysmal cough supervenes, which is often attended with frothy albuminous expectoration, sometimes streaked with blood. Such symptoms must be regarded as warnings significant of pulmonary congestion and suggestive of œdema. The French physicians have especially drawn attention to the import of this albuminous expectoration after paracentesis. But, in some cases, asphyxia may very rapidly supervene without any warning of the kind.

M. Legroux has attributed the sudden fatal termination of a case related by him to the Societe Medicale des Hopitaux to cerebral anæmia, from deprivation by sudden afflux of blood to the chest. It is undoubtedly possible, especially if the patient do not maintain the recumbent posture, that faintness may have its origin, in the first place, in cerebral anæmia; but its fatal persistence must, we suspect, be always due to cardiac adynamia. In the *Gazette des Hopitaux* for 1869, M. Vallin has related a case in which sudden hemiplegia and aphasia occurred in the course of an acute pleuritic effusion, a plug of fibrin being found *post mortem* impacted in the left cerebral artery, with a corresponding centre of softening in the corpus striatum. M. Vallin is of opinion that, while the lung is compressed by an effusion, some clots are apt to form in the pulmonary veins, or possibly in the appendix of the left auricle, fragments of which may readily become detached by any sudden movement, or while the lung is expanding during paracentesis, or while the pleura is being washed out. Thus loosened, such clots would be conveyed into the left ventricle, and thence to the cerebral arteries.

There are a few practical conclusions, in the way of precautions, which appear to us to be suggested by the above considerations. The recumbent position, the ready supply of stimulants, and their timely administration; the avoidance of unnecessary pain and shock by the use of local anæsthesia; the firm application to the side, after the operation, of a broad piece of plaster, extending an inch or two beyond the median line in front and behind are points to be borne in mind. The escape of fluid should be at once arrested on the occurrence of any syncopal attack. Paroxysmal cough is also a warning to desist. We do not see the utility, if no untoward symptoms occur, of removing only a small quantity of fluid, as recommended by some. It is scarcely worth while performing the operation to remove only a pint of fluid, and to leave half a dozen pints behind to be taken away in similar driblets. It is not wise, on the other hand, to attempt to drain the pleura, nor ever to remove more fluid than will flow at the solicitation of a moderate syphon-power. As to the instrument to be used, it matters not so long as air be not admitted, and the fluid be steadily evacuated by no more than a very moderate aspiration-power. We prefer to see employed a simple trocar of moderate calibre, with a branch to which tubing is attached, with a fall of two feet, the end of the tube being under water. In cases of pointing empyema, the plan advocated by Dr. Sinclair in the *Edinburgh Medical Journal* for December seems a very good one; viz., to open with a bistoury under the carbolic acid spray, to insert a drainage-tube, and treat on the antiseptic method.

In conclusion, we would ask for further information and reports of fatal cases, bearing especially upon the following points; viz., the result of microscopic examination of the muscular wall of the heart; the condition of its cavities, whether full or empty, contracted or flaccid; and, in cerebral cases, as to the presence of *ante mortem* clots in the pulmonary veins of the left auricle, or evidence of their detachment. More observations are wanted also as to the expediency of washing out the pleura, and the best method of doing it, and the best solutions to use. It seems obvious that the syphon tube should always be preferred to a syringe, the pressure employed with which we cannot estimate.—*British Med. Jour.*

DOUBLE OVARIOTOMY—TRANSFUSION OF MILK—RECOVERY.

Dr. T. G. Thomas, (N. Y., Obstet. Society,) presented two solid tumors of the ovary, both removed from the same patient, whose history he related as follows:

Three weeks ago he was consulted by a lady, thirty-two years of age, the mother of three children, the youngest of which is seventeen months. The patient had always enjoyed good health until the birth of her last child, after which she gradually lost strength, suffered from night sweats, and became very much emaciated. She consulted Dr. Clark, of Oswego, who made an examination and discovered a solid tumor of the right ovary of the size of a hen's egg, which he thought malignant in character. The tumor grew with moderate rapidity until it reached the size of the larger one exhibited, plus about one-third lost by shrinkage since its immersion in absolute alcohol, *i. e.*, about the size of an adult head. The patient in the meanwhile consulted Dr. Chauncery L. Mitchell, of Brooklyn, where she resided, and Dr. Atlee of Philadelphia, the latter of whom said that the tumor was malignant, and that an operation for its removal would be extremely hazardous. When Dr. Thomas first saw the patient she was exceedingly feeble and emaciated, appearing like a person suffering from diabetes. The abdomen was tender to the touch and distended by a tumor, which reached above the umbilicus. The general and local features of the case reminded him of two cases of adenoma of the ovary which had previously occurred to him; he therefore made that diagnosis, and dissented from Dr. Atlee as to the chance of recovery, telling the friends of the patient that there was ninety chances out of one hundred against her, but probably ten in her favor. Wishing to make a further examination in the presence of several gentlemen of this city, Dr. Thomas requested the patient to call at his office again, but she was so exhausted by her first visit that she was unable to comply with his request. The friends were very anxious for the removal of the tumor, and the operation was therefore fixed for Thursday, October 14th, and performed at 3 p. m. on that day. On opening the abdomen, which contained no dropsical fluid, a large solid tumor of the right ovary was found, the pedicle of which was first secured by a clamp, which was subsequently removed, however, and its place supplied by a ligature, the pedicle being then dropped. The left ovary was found in Douglas's cul-de-sac, pushing the uterus forward. Previous to the operation Dr. Thomas had thought this tumor behind the uterus to be a portion of the large tumor, and probably adherent, which fact would have rendered the prognosis still less favorable. The left ovary was removed, the pedicle ligated and dropped. The duration of the operation was only thirty-six minutes, which was fortunate, as it is important not to keep the abdominal cavity open too long, or the patient for a long while under ether. After the operation the patient was seized with vomiting, which continued until the following Saturday, and obliged nutrition to be performed entirely by the rectum. On Saturday she had a severe metrorrhagia (after having been amenorrhœic for the last three months), and became very much prostrated, pulse 140, temperature 101°, no febrile reaction. On Sunday Dr. Thomas left for Rhinebeck, where he had an operation to perform, leaving Dr. S. B. Jones in charge of the patient. In the afternoon he received a telegram that she was sinking, and apparently near death. During the night, however, she rallied somewhat, and appeared slightly better when he saw her on Monday morning. In the evening, between 6 and 7 o'clock, however, he received a dispatch, saying that she was sinking rapidly. He hurried to Brooklyn, arriving there at 8 o'clock, and found the patient bathed in a cold, clammy perspiration, and exceedingly collapsed, the pulse 142-145, sometimes entirely lost at the wrist; and in his opinion, and that of the attendants, the end approaching. Preparations had already been made to perform transfusion with milk in case of necessity, for which Dr. Thomas had left directions in the morning; an Alderney cow was driven into the yard and milked into a pitcher covered with gauze, the pitcher standing in a pail of warm water. All impurities were thus prevented from entering the milk, which was kept at a proper temperature by the warm water in which it stood. The canula was introduced into the median basilic vein, and nine ounces of milk were gradually injected. Dr. Thomas used the transfusion apparatus devised by Robert and Colin, of Paris, which consists of a large funnel, into which the fluid to be transfused is poured, at the bottom of which funnel is an opening connecting with a syringe, to which is attached the tube leading to the canula in the vein of the patient; closing this opening in the bottom of the funnel is a movable ball of aluminium, which, being lighter than any fluid, but heavier than air, when the mouth of the funnel is turned upward, by its own gravity effectually closes the opening against the entrance of air with the fluid when the piston of the syringe is drawn back in filling, or pushed forward in emptying the syringe. This ingenious contrivance was used with great satisfaction in this case. After the injection of a few ounces the patient experienced no sensation whatever, the pulse being feeble and beating 160-170; but when six ounces had been introduced, she at once complained that her head felt like bursting, a rigor came on, followed by high temperature, the pulse beating 152-155. These symptoms continued for some little time after the completion of the transfusion of the nine ounces of milk. One hour afterwards she fell into a sound sleep, which continued all night, and from which she was not aroused for the purpose of giving her nourishment, because she had latterly been unable to retain anything administered either by the stomach or rectum. The next morning, Tuesday, she was slightly delirious, but much stronger, the pulse 116; she said that she felt "as though she were going to get well." From that time she improved steadily, and is now out of bed and out of danger, and doing well.

Dr. Thomas said that he would not positively assert that the transfusion of milk saved the life of the patient, but his firm conviction is that it did.

The tumors were both of the same structure, with a dense, fibrous feel, but still not like a uterine fibroid. The larger shows a deep sulcus in which runs the Fallopian tube; the smaller is about the size and shape of a kidney, its surface like that of a cirrhosed liver in appearance. Specimens of the larger tumor were sent to four gentlemen for microscopic examination, two of whom reported it to be adeno-sarcoma, a mixture of embryological ovarian elements and sarcomatous cells, and the other two simple adenoma.—*American Journal Obstetrics.*

INVERSION OF THE UTERUS.

Dr. Frank Woodbury (Medical Society, Philadelphia,) desired to ask Dr. Atkinson, or any other gentleman of large obstetric experience, as to the relative frequency in practice of an accident of recent occurrence under his own observation, which appears to be generally spoken of by the books as a remote possibility rather than an active danger threatening improper management of the third stage of labor. In delivering the placenta, traction upon the cord is recommended by some writers, among whom perhaps the most familiar name is that of Cazeaux, but always with certain cautious and careful instructions. It is to be feared that many who have used Cazeaux's work as a text-book remember his teaching to warrant the practice of dragging on the cord, but altogether forget the special directions as to how it should be done, if adopted at all. From this fact, and the possible grave results consequent upon the procedure, it would follow, although the temptation seems to be sometimes strong to pull, that dragging upon the umbilical cord should be finally abandoned and condemned as a true piece or " meddlesome midwifery." It is entirely unnecessary; for the placenta may either be allowed to remain until expelled by the natural efforts of the uterus, stimulated to contraction by its presence, or the womb may be encouraged to contract, and the placenta expelled by the manipulation lately known as Crede's method.

The case was primiparous, about thirty years of age, of good physique, and in fair social circumstances. Capricious and self-willed, she had been in labor about thirty-six hours, keeping her physician dancing attendance upon her whims, but, as far as she dared, disregarding his instructions. She had been all day in the second stage of labor, and the pains had almost died away, when she finally consented to the application of the forceps, but soon changed her mind, and positively refused to go any further without ether. The attending physician then called upon Dr. W. and invited him to give the anæsthetic. This done, the child was soon extracted, although with some difficulty on account of its size; it weighed probably about twelve pounds. It was born asphyxiated, but probably not from the effect of the ether, because a small amount was found sufficient; and the mother was not at any time fully under its influence. The head had been impacted at the superior strait for about twenty-five hours, and from the long pressure right-sided facial palsy had been produced. The child lived only twenty-four hours after birth. After spending some time attending to the infant, the delivery of the placenta came next in order. Seated at the left side of the patient, who was lying across the bed, after having been delivered, in the dorsal position, Dr. W., with his right hand, followed up the now firmly-contracted uterus with gentle friction over the abdomen. The attending physician, in delivering the secundines, pulled rather firmly upon the umbilical cord, and was removing the placenta from the ostium vaginæ, where it had just presented, when the uterus was missed from under the hand. The fact was immediately mentioned that speed was desirable in clearing the canal, as it was feared that contraction had ceased and concealed, hemorrhage was in progress. The placenta removed, an unfamiliar body, " like a second placenta," was discovered occupying the vagina, situated about two inches from the vulva. Being requested to make an examination, Dr. W., with the right hand still on the abdomen, proceeded, with two fingers of the left hand, to remove the anticipated clot and open the flood-gates. The substance encountered, however, was not a soft, friable clot, but a dense body, in whose surface were loculi, which were recognised with trepidation as the open mouths of sinuses Being authorized to go ahead, without alarming the by-standers or unnecessarily attracting attention, the two fingers kept in place, were joined by the other component parts of the hand, which then doubled into a fist, and made steady pressure upon the everted fundus until the circular fibres of the neck yielded and the organ was restored to its place, the fore-arm then being more than half buried in the patient's body. This was not done without giving some pain, or causing some struggles on the part of the half-etherized patient, but it was accomplished without suspicion on the part of the non-medical attendants that anything unusual was happening The uterus contracted well immediately afterwards, and, although some blood was lost, there were no signs of collapse. It is reported that the patient made a good recovery.

Dr. Atkinson.—The accident is a very rare one, and the gentleman may practice a life-time without seeing another case. I hope no member of this Society will ever attempt to deliver the placenta by pulling the cord; it should only be mentioned to be condemned. The operation known as Crede's method is now generally recommended; although it was not original with him, but was practiced and taught by Dr. Washington L. Atlee as early as 1853.—*Med. Times.*

BROMIDE POTASSIUM IN HEMORRHAGE, ETC.

The employment of bromide of potassium in cases of epistaxis, uterine hemorrhage, and coryza is recommended by Dr. Geneuli in *L'Union Medicale.* He reports the case of a man in whom violent epistaxis had continued for six hours uncontrolled by styptics, when finally a saturated solution containing six grammes of the bromide of potassium was injected into the nose by means of a glass syringe; the hemorrhage was promptly arrested. Another case of a woman afflicted in the same way was speedily relieved by an injection of the same remedy twice. It is recommended that the bromide should also be given internally to prevent a recurrence of the hemorrhage. The power of promptly arresting the epistaxis is not due to the coldness of the solution of the salt, but to the contraction brought about in the blood-vessels, and the consequent diminution of the flow of blood to the head. In cases of epistaxis, if the first injection should fail to accomplish its purpose, three or four injections may be given in succession. For uterine hemorrhages, of moderate intensity, bromide of potassium given internally, and associated with the *pulvis ferri* in cases of anæmia, is recommended. The writer in his own person tested the value of the bromide in coryza. Two injections of saturated solution given with half an hour's interval brought rapid relief, and six hours later effected a permanent cure. The application is rather painful for a time, but a sensation of relief soon follows.

COLORED LIGHTS IN THE TREATMENT OF THE INSANE.

To those interested in the treatment of the insane many thoughts must be suggested by the recent investigations of Dr. Ponza, of Alexandria, on the influence of colored light in the treatment of insanity and allied disorders of the nervous system. As a means of discipline the two extremes—viz., open day-light and darkness—have been employed in this country more, perhaps, than in any other; and yet the spectral modifications have escaped our notice in their influence on the diseased mind. This is curious, because in no branch of the profession so much as in lunacy, and in no part of the globe more than in this country, have the features of disease been more accurately described, and yet the clue to the use of colored light given by the insane has been by us overlooked. Take, for instance, the epileptic temperament, where the religious sentiment, the peculiarities of different kinds of seizures, the general neatness and fastidiousness of attire, the fondness for colors, etc., have been so accurately noted by English observers; but where, beyond seclusion in a separate and usually darkened room, no use of the evident love of this class of patients for colors has been made.

Dr. Ponza's experiments consisted, in the abstract, in placing his patients in chambers colored red, blue, and violet, with most surprising results. In the red room he placed a melancholic man who had refused his food, but who, three hours afterwards, was found lively and hungry. In the blue chamber he placed a violent lunatic, who became much quieter within an hour. In a violet room he procured equally good results. Of all the rays of the spectrum the violet are those which possess the most intense electro-chemical rays; the red are richest in caloric rays; while the blue, devoid of caloric, chemical, or electric rays, is in fact the negation of all excitement, and is most useful in calming violent accesses of fury. Couched in the choice neat phrases by which French authors commonly express themselves, the experiments seem conclusive. True it is, that we have reports of only a very few cases; that no indication is given of various sources of fallacy; that the accounts of the permanence of the cure are unsatisfactory; still the fact remains, that a record has been made of a new method of treatment, the facilities of working and economy of which commend it to those working in the same line.

No experiments are on record of the different properties, as regards extent, of the calorific, chemical, or electric parts of the spectrum of bright daylight in different countries. It cannot, indeed, be said, in the absence of direct experiment, that such differences actually exist; and yet a priori reasoning would lead us to expect it. The flow of spirits and the emotional susceptibility in the inhabitants of brightly lighted but not oppressively hot countries; the feeling of buoyancy that all experience in a bright summer in this country; the change from depression to exuberance in visiting lands with clear and bright atmospheres; the improved digestion in warm and clear weather, and the depression of darkness, all tend to show the influence of light on life. Ever since and before the days of Sartor Resartus, the dress and its color have given a certain clue to the life of the inner man; and the variegated dresses of the most civilized warm countries are but external manifestations of minds influenced by atmospheric agents, the chief of which is light. It is interesting to notice how a person in various stages of an insane condition will exhibit traits of character and alterations of dress that we can recognize as being usually associated. Thus, in a stage of depression, his clothes will be, if he exhibit any choice at all, as sober as a Dutchman's; but when he has entered on another phase, and has become gay and excited, no peasant that has ever lived in the sunniest spot can match him in his peculiar arrangement of dress and color. Many insane persons can stare at a bright sun steadily; this, too, when the vision for near and distant objects is by no means impaired. These seem to be unsusceptible to spectral influences, and their insanity is usually of a harmless description. As might have been expected, blind insane persons are, unless rendered irritable by the dependent state of their life, or troubled with hallucinations of other senses, quiet and uninteresting; their life being deprived of light, exhibits no peculiar color in mind or body.

Heat, as shown by the experience of the Turkish bath, is a powerful curative in insanity, chiefly because it promotes sleep. Electricity is of proved advantage in primary dementia and melancholia. In light, we have a combination of these with a third—chemical influence—which has been long utilized in the artificial rearing and forcing of plants, and which is destined to bear a large part in the treatment of the highest development of life—the human race. One of the greatest punishments that can be inflicted is to place a person in total darkness; nothing is so dreaded in the army, in the convict service, and by the insane, when it is used as a punishment. We look upon "seclusion"—i e., separation in a single darkened room—as of absolute necessity in some states of insanity, especially when associated with epilepsy; and it is right that those who argue on the propriety of using seclusion should be met on the ground of its being a really curative measure. Surely a remedy which has not only electric, chemical, and thermal properties, but which can be modified so as to procure any desired arrangement of these, and one combining also, as it does, opportunity for separation from other exciting causes, must and always will be, and should be, a powerful instrument in treating insanity; and the ideas of those are visionary who hope to treat acute or chronic disease without it. It is very probable that temporary color-blindness—modifications of the internal machinery giving rise to hallucinations of color—are very common in the insane, and lead to acts of which an outside observer can not perceive the rationale. In such cases, an artificial light might be of the greatest value. The violet rays, which possess the most intense electro-chemical rays, are precisely those which might be expected to be of service in dementia, melancholia with refusal of food, and hysteria with dyspepsia. A subdued natural light is essential to rest and sleep; and, if we can do away with the terrorism inspired by placing a patient in an absolutely dark room, while modified light can be afforded, without doubt in numberless instances repose will be gained, which sedatives might be unable to procure. Everywhere, when rest is desired, or the emotions have to be appealed to, colored light is employed. Witness the "stained and storied pane" in ecclesiastical edifices; the dim light of the Turkish bath; the deadening and coloration of light on the stage when the sympathies of the audience are appealed to; the "darkness that can be felt" on a rough night at sea.

That the gloominess of many old large asylums has a depressing effect on the inmates is seen by the surprising recovery of the latter when removed to better conditions; while, on the other hand, very light rooms and corridors are unsuitable to the treatment of many forms of acute disease. Many insane refused to wear clothing unless dyed of a certain color. Why not seize the fact, and, treating it either as a delusion or an hallucination, treat them according to the color of their minds? It is a fact that some persons can detect the color of a material by feeling it. Suppose such a one in an insane state irritated by contact with material of a color to which, as the result of a delusion, he has a special aversion; how his case must be retarded unless the very conditions of his mind are recognized, and he is bathed in light of a proper tint.

There is a harmony between light and sound, and a judicious application of the latter has still to be made in the treatment of the insane. We read recently in a German book of a "gamut of smells," where the author professes to give a chord of flowers analogous to a combination. There is no reason why other special senses besides light should not be brought under control. Facts on all these subjects are still wanting. We can do no more than indicate what has been done, and the path of future inquiry. The simplicity of this Jordan may have caused it to be overlooked; but advise all interested to read Dr. Panza's short essay in the "Annales Medico-Psychologiques" for January.—*Brit. Med. Journal.*

NOTES ON THE PATHOLOGY AND TREATMENT OF SOME FORMS OF HYSTERICAL DISORDERS.

By EUGENE DUPUY, M. D., (Univ. Paris), New York.

If hysteria in some of its severe paralytic forms is very untractable, it is by no means unamenable to therapeutic agents. It is well known that some cases of contracture, more frequenty of the lower limbs, will, after long duration, simulate all kinds of malformations, and when the muscles have undergone wasting, leave, as a sequel, a useless limb.

But what is the nature of the disease—or, in order to be in accordance with the majority of contemporary pathologists who think that every disease must, in every case, have their *fons et origo* in the same organ—where is the seat of the malady? If a very great number of high authorities see a connection between abnormal states of the female generative organs and the development of hysteria, many others, invested by common consent with just as high authority, deny any such connection. I shall simply state diseases of almost every viscus have been traced as the starting cause of hysteria; and that some of its severe forms—contracture, paralysis and wasting—have been observed in children before the age of puberty, and in women after the critical period. A theory which is now gaining ground in France, and which does not lack ingenuity, originated with Professor Charcot. He, after carefully comparing the phenomena of hemi-anæsthesia, hemiplegia, etc., etc., usually associated with certain forms of hysteria, and similar symptoms, which according to him, are always met with in destructive diseases of that part of the middle encephalon called internal capsule—believes that that part of the cerebral organs is the seat of hysteria in its hemiplegic form at least. I would certainly adopt that theory. Elsewhere I have shown this idea to be somewhat fallacious (for it is always safe to sail under the same wind with so eminent a teacher as Prof. Charcot), provided the internal capsule were a nerve centre instead of being merely a tract of sensitive and motor fibres, identical with the tract of the spinal cord, is devoted merely to sensito motorial conductions. The study of cases of lesions of the pons Varolii, both in male and female subjects, caused by most diverse diseases, and in which I have very often observed hysterical symptoms, cause me to doubt. These symptoms have been well studied by my friend Dr. E. C. Seguin. He thinks that they depend upon various lesions, more especially of the right hemisphere of the brain, a view put forward by DeFleury, of Bordeaux, in his work of the Comparative Dynamics of the Cerebral Hemispheres, some years since. This opinion, and the assertion that some hysterical symptoms have been observed in diseases of the pons, by Bastian, of London, in his treatise on Paralysis from Brain Diseases, together with a pretty numerous series of experiments on dogs and cats, permit me, I believe, to state, that very likely, hysterical phenomena are dependent upon the abnormal state of either lateral portion of the upper part of the pons Varolii. I may as well state here that the nerve centres of the pons are perhaps merely passive in the process, and only become organically implicated when we already find contractures and paralyses with atrophy of muscular tissue and the consequent deformities. I have satisfied myself that the origin of the trouble is a vascular one of the nervous centres, an abnormal condition of the so-called sympathetic nerves. The origin of the latter, according to classical authorities, is in his pons; but I believe it is all along the spinal cord and base of the brain, as shown by Vulpian lately, and as taught for now more than twenty years by Brown-Sequard. But, unlike the above named eminent physiologists, I think it probable that the vasomotor nerves, instead of originating in the axis of gray matter of the spinal cord and pons, penetrate into it, and instead of proceeding from those centres together with the other nerves as they come out, and as Bernard has tried to establish for the so-called cerebral nerves, they only join the nerves of motion and of common and special sensation at their exit from the cerebral and spinal mass, and at the point where they receive their sheathing from the pia mater. For the trigeminus nerve, at least this point is beyond contest, both experimentally and anatomically. One of the first workers with the microscope in the field of anatomy of the nervous centres, Hanover, has as far back as 1844, most beautifully figured the fibres, cells and small ganglia on the tract, and chiefly on the ganglion of Gasser of the trigeminus. Moreover, Rainy, in a paper published in the *Transactions Med. Chirurg. Society of London*, 1844, states that the arachnoid is the centre from which arise the vascular nerves.

If after the removal of the whole cerebral hemispheres and ganglia, except the pons, sensations in warm-blooded animals still persist, as proved by the experiments of Vulpian, and more recently of Onimus, Lepine, Brown-Sequard and others, it appears to me legitimate enough to conclude that the vascular nervous centres, which are most numerous around the pons, are altered either directly or indirectly through peripheral sensory fibres. The nature, seat, and duration of any given irritation will determine the variety of diseased manifestations. In this connection I may call attention to the very able pamphlet of my learned friend, Dr. Lepine, of Paris, in which he has reported cases of hemiplegia and other interesting phenomena dependent upon diseases of the lungs, and some very curious and suggestive experiments of my eminent friend and teacher, Brown-Sequard, showing various effects exercised by mere pricks of the lungs and other small thoracic viscera upon the pupil of the eye. These are very interesting facts, which go to support the theory that alterations of the abdominal and thoracic viscera do have a very strong "retentissement" on the vascular centres. Well-known phenomena of hemi-anæsthesia and anæmia of the skin, or contractures followed by paralysis, deformities, etc., which may become permenent at the end, and present a faithful picture of amyotrophic selerosis (Charcot), and of coxalgia (Brodie, Verneuil, etc.), and even of club-foot. As my intention is only to deal with that form of hysteria which sometimes does ultimately verge in permanent deformities and paralysis through wasting, I shall dismiss the other aspects, however interesting here.

The diagnosis of the disease is not, as a rule, a very difficult one, except perhaps when it attacks very young males and females; in which cases it may be mistaken for coxalgia, so-called idiopathic contractures following convulsions, wasting of infantile paralysis, club-foot dependent upon organic disease of the spinal cord, etc. But if it is sometimes difficult, when the deformities have been long standing, to discover what is their origin, it is, however, not absolutely beyond our means; careful consideration of the habits of the little patients, and of the onset of the disease, will help us a good deal to clear the obscurity; but of this, more hereafter. When the paralysis occupies the upper limb or one side of the body in adult patients, it is much more often the left side. Sometimes the minor symptoms will almost give rise to the suspicion that hemorrhage has taken place in the brain; but the state of the pupils which are dilated in hysteria, and slightly respond to light, the non-deviation of the tongue, the non-alteration of temperature, or its lowering below the normal degree, the loss in a more or less degree of sensation in the paralysed parts, will help us to come to a correct differential diagnosis. When contractures are present it will be easily seen that we have not to deal with hemorrhage or coarse lesions of the brain, by the fact that if we try to push the extended arm by pressing on the palm of the hand in such way as if to push the limb behind the shoulders, or perform the same operation on the sole of the foot, pushing the leg in the axis of the trunk, we will detect, particularly if the disease is of long duration, the peculiar shaking common to every form of sclerosis. This aspect of hysteria, as pointed out by Professor Charcot, is due to secondary fasciculated sclerosis of the lateral column of the spinal cord, which, however, he distinguishes from what he has called amyotrophic sclerosis, by the fact that in the last-named disease the cells of the anterior horn of the spinal cord are primarily affected, while in the hysterical wasting under consideration, the cells become affected only as a consequence. Moreover, in all the hysterical shams, however chronic, of muscle disease, galvanic electricity gives rise, both through nerve and directly, to contraction, which it is well known does not take place in the genuine diseases. If we have to deal with contractures of parts only of muscles of the lower limbs, the diagnosis is sometimes more troublesome. To say nothing of the many means which individual ingenuity can suggest, one at least will always settle the case, provided there has not already been a complete wasting of muscles, and that is, inhalations of ether or chloroform, and perhaps nitrite of amyl, but chiefly the exhition of chloral hydrate, in full doses. Indeed by that means it is almost always sure that we shall discover if we are dealing with hysterical mimics of organic diseases of the nervous centres.

In every case, of course, it is most important to know the history of the disease; and if we have to treat children, one of the first points to make clear is, whether they are not addicted to onanism or irritative practices upon the genitals. I have lately seen in Paris a girl eleven years old, not yet menstruated, who presented a deformity amounting to atrophy of some muscles of the leg and club foot, which could be ascribed to no other cause than that stated above. She is actually highly hysterical.

But it is not enough to try to find out what the characters and features of hysteria sometimes are ; by far the most interesting point is the treatment. If in a very great number of cases of hysteria the physician has to resort, through failure with all else, to so-called moral treatment, I must say, that in the forms of the disease of which I have been speaking, he will run great risk of allowing permanent impairment of some limb of the patient. Moreover, if the physiological process of the disease be such as I have tried to establish, it is not unreasonable to resort to therapeutical agents, which former experience has taught to be of service in similar conditions. I have sometimes been lucky enough to relieve a few patients suffering from paralysis of motion and sensation by the use strychnia, steam-bath, massage, generous diet. In a long standing case, I tried the actual cautery, applied on the nape of the neck, but perhaps the "emotion" of the patient did all the curative work in this instance. When there is contracture, it will be made to disappear by the use of chloral hydrate, exhibited every other night, and steam-bath, on the intervening days, the cold douche only to be applied to the head and neck. The spinal hot-water bag is more efficacious in some cases where only the lower limbs are implicated. Of course the continuous current of electricity has to be employed ; but just as with faradic electricity, it will be found to be of little avail except when directed against the wasting of the muscles. By far the most effective treatment, and chiefly so when there is the shaking, indicating sclerosis of Charcot—consists in large doses strychnia, and alternately of iodide of potassium, in not more than four or five grain doses of the latter, and the application of the actual cautery. I have employed this latter agent after the manner adopted by Brown-Sequard. It must be used every other day, and in order to be able to do that and also to assure success, the iron must be heated to whiteness, and only allowed to touch the skin, which then peels off just as if scratched very slightly by the nail—and the touches must embrace a pretty large surface in length—on the two sides of the spinal processes.

We must not forget, however, that in some instances of pretty frequent occurrence, all the symptoms described in this lecture will vanish on a sudden with the accompanying circumstances and phenomena generally described in cases of miraculous cures, but which are also daily met with in practice. I need not say, in dismissing this subject of hysteria, that all those therapeutical means will be found only of temporary efficiency, if the primary cause of the disease is not got rid of, whether it be seated in the genitals, the reproductive organs, the viscera, and the nerves or nervous centres.

ON THE TREATMENT OF CLUB-FOOT.

Dr. W. J. Little, of London, presented a paper on this subject to the Surgical Section of the British Medical Association at its late meeting (*British Medical Journal*, August 28th, 1875). He first alluded to Stromeyer's great discovery of subcutaneous tenotomy published in 1831. In 1836 he himself, by the study of specimens in the museums at Berlin, came to the conclusion that contraction of the tendo-Achillis was not the only cause of distortion ; but that the anterior and posterior tibials were also effective. Accordingly he had, as early as 1837, divided the tendons of these muscles in cases where it seemed necessary.

After showing that the average age at which patients were operated upon had gradually decreased from eighteen years to a few weeks or even days, Dr. Little went on to consider the causes of imperfect cures or relapses of the deformity after an apparent cure. These he considered to be the following:

1. Omissions of operation at an early period. The earlier the period of operation, the more perfect would be the cure. Operation might be practiced the day after birth.

2. The undue importance attached to the division of the tendo-Achillis alone.

3. The treatment by instruments where the patient's foot was kept too long in a fixed position. By this, the healthy use of the joint was lost.

4. The entrusting of the after-treatment too much to attendants, instead of the surgeon himself. The excellence of the results would be in proportion to the amount of personal attention paid by the surgeon. Not a single day should pass without his re-applying the apparatus.

5. The insufficient estimate of the difficulties sometimes met with by the operator, and his consequent neglect to inform the parents of the true nature of the case. He was in the habit of informing parents that the after-treatment of the case would be required to be attended to by them until their child had arrived at an age when it was responsible for itself.

6. Improper use of apparatus in those cases where the cure had not been completed before the patient was able to walk.

In relapsed cases, he deprecated re-division of the tendon, or resection of the muscle itself. The heroic proposal to divide all the tissues *en masse*, between the skin and tarsal arch, was unnecessary and useless. Even although there was no risk of bleeding, and though the divided nerves united again, still there would probably be pain and risk.

He had endeavored, from an early period, to simplify the mechanical appliances employed, whether or not at any cutting operation in each particular case be needed.

During the last ten years, he had gradually advanceed to the present state of his experience, that every case of congenital varus, in an infant under nine or ten months of age, requires absolutely no other mechanical appliances than a roller bandage and one or more padded metallic splints successfully adapted to the limb, in proportion as its form and position improve, and that more elaborate apparatus, based upon Scarpa's or Stromeyer's modified Scarpa's shoe, or upon steel and India-rubber springs, with leg-irons, is only required when either ill-fortune, inattention, or neglect, has prevented the treatment from being carried out early or in a thorough manner. He laid down the following rules:

Whether or not any division of tendons be deemed necessary, commence the treatment at the earliest period the health of the infant, the state of the mother, and other circumstances, permit, even within twenty-four hours, or the first week of birth. If in doubt as to need of operation, "take further advice," or try gentle mechanical treatment only, by means of his splints, for a few weeks. Whether or not any operation be performed, remove and re-apply the splint at least once in each twenty-four hours, and whenever it appears to be seriously displaced. Practice, and teach the nurse to effect, daily or oftener, gentle manipulations, pressings and stretchings of the distorted parts towards the desired form and position, and guard against the ankle losing any portion of its natural movement; overcome thoroughly the inversion of the foot and the contraction of the sole before attempting to bring down the heel, especially if resort be had to operation.

However favorably the case may progress, do not permit the part to assume for a moment any portion of the former evil position, from which the treatment may have gradually rescued it, or allow the child, on any pretence, to be placed on the foot before full natural eversion and bending can be readily effected by the attendant, and anatomically or spontaneously by the child.

A well treated successful case of severe congenital varus can apply the sole and heel properly to the ground, with the toes turned out, and walk, at the age of twelve to sixteen months, as well as a sound child.

In conclusion, Dr. Little showed how he considered a cure of club-foot could be effected before the child was twelve months old, so that not only should the foot be perfect in shape, but also in function. This consisted in the application of a well-padded straight splint, at first exactly moulded to the deformity. Gradually, each day, the angle was to be changed, until the foot, from the position of *varus*, assumed that of *valgus*. It should be kept at this for a few days. While the process was going on, the movement of the foot at the ankle should be performed each day. If necessary the tendo-Achillis might be divided, and a splint with a screw used. By this means the surgeon could, in twelve months, obtain a perfect cure, and thus avoid all unnecessary expense to the parents, or annoyance to the patient.

The author exhibited a series of his splints for the cure of congenital club-foot in infants, and of other apparatus, for incompletely cured, relapsed, and neglected cases, employed from the time of Scarpa to the present day.—*Monthly Abstract of Medical Science.*

ORTHOPÆDIC HOSPITAL AND INFIRMARY FOR NERVOUS DISEASES.

Reported by WHARTON SINKLER, M. D., Attending Physician.

During the past two years the number of patients in attendance at the department for nervous diseases of the Philadelphia Orthopædic Hospital has increased greatly. For example, in the year 1873 there were 256 nervous patients, in 1874 there were 427, and in 1875 the number of new cases reached 469. In the surgical department there was an almost equal number of patients.

These cases include all varieties of the most interesting nervous diseases; and it may be of interest to the readers of this journal to know something of the practice at this institution. Among the cases in 1875 there were 103 of neuralgia of various types, 31 of chorea, 36 of local palsies involving the extremities, 32 of infantile spinal paralysis, 30 hemiplegias, 11 cases of spinal congestion, 9 of sclerosis of the actero-lateral columns of the cord, 8 of locomotor ataxia, 10 of brain-tumor, and 1 of pseudo-hypertrophic paralysis, besides many other affections of the nervous system.

The neuralgias we usually treat with iron, arsenic, and galvanism; cod-liver oil if the patient is at all run down, and iodide of potassium if there is a syphilitic or rheumatic history. Phosphorus in solution in alcohol and glycerine has been given in some cases of facial neuralgia and sciatica, but without satisfactory results. Recently we have been giving gelseminum with very striking effect in most of the cases where it was prescribed. The dose given is rather smaller than that usually recommended, but several patients have reported dimness of vision and uncomfortable feelings in the head from seven drops of the fluid extract, so it is not often that we begin with more than ten drops at a dose. The following brief histories will illustrate the result of the treatment:

Case I.—Catharine F., æt. 38, has suffered from left trigeminal neuralgia for several years, and has tried various means of treatment, including extraction of most of her teeth, without relief. She first applied for treatment in June, 1874 and the galvanic current was used for some time with decided relief; but in December of the same year the neuralgia returned with great violence, and continued until September, 1875, when she again applied at the clinic. Galvanism was ordered, and, this proving of no avail, phosphorus was given, beginning with gr. 1-50th at a dose, and increased to gr. 1-25th, three times a day. The pain being unabated, on February 2, the phosphorus was stopped, and six drops of fluid extract of gelseminum t. d. were prescribed. She returned on the 9th, saying that the medicine had made her sick at the stomach, and she had discontinued it after two days. She was directed to begin again with six drops, and to increase one drop daily until marked physiological effects were seen. On February 16 she was better, and on the 23d she reported the paroxysms of pain as having ceased entirely, and a slight aching in front of the ear as her only trouble. Ten drops was the utmost that this patient could take. She took cod-liver oil at the same time that she was taking the gelseminum.

Case II.—Morris W., æt. 21 years, five years ago had his first attack of neuralgia. It was severe, and was over the left eye. Three years ago had a second attack, and nine months ago a third. The present attack began about three weeks ago. The pain is in the right supra-orbital nerve, which is exquisitely tender to the least touch. Motion also increases the pain. The paroxsyms begin in the morning soon after rising. The patient was ordered quininæ sulph., gr. x night and morning.

He returned in two days, no better. He was then ordered ten drops of fluid extract of gelseminum t. d., to increase one drop daily. At the next visit, two days later, he reported himself better, and five days after beginning the gelseminum he was entirely well. As stated that when the dose had reached gtt. xvij there was a "dazzling effect upon the eyes," and the pain passed off.

Case III. was one of hemicrania, in a woman aged 35 years. She was ordered six drops of fluid extract of gelseminum t. d., and in a week returned saying that she was well.

Dr. A. Surasz, of Heidelburg, has cured five cases of neuralgia with this drug. One was a case of sciatica, one of brachial and three of facial neuralgia.

Gelseminum has been used successfully in a case of chorea of long standing which has recently been under our care. The patient, a lad of sixteen, took twenty-three drops of the fluid extract, three times a day, before marked toxic effects were observed; but the movements, which were excessive, ceased completely. I would here remark that in the treatment of chorea we generally rely upon arsenic, and in several instances we have used the remedy hypodermically with success, where it had failed when given by the mouth.

Sciatica we usually treat by placing the patient in bed and applying galvanism once or twice daily; at the same time cod-liver oil and potassii iodid. are administered internally. In some severe cases, which have resisted this treatment, the actual cautery was used with success. Great care is taken to make a careful diagnosis between sciatica neuritis and ordinary sciatica. In neuritis the application of ice bag over the nerve for three or four hours daily is of great benefit.

In a case of sciatica which came to one of my clinics in the early part of last fall, the cause of the trouble was cancerous growth, which pressed upon both sciatics. The tumor was quite prominent over the upper part of the sacrum, and must have extended inwardly, from the dfficulty with the bladder and rectum which existed.

We have a large number of cases of hysteria, which were treated as in-patients. Many of these were the so-called "bed cases,"—women who had not walked for years, and who rarely left their beds, except for short intervals. One, a patient of Dr. Mitchell, had not walked for seventeen years. She entirely recovered her power of locomotion in six weeks.

The treatment of these cases consists in keeping the patient absolutely at rest in bed for the first two or three weeks, not allowing her to make the least voluntary effort, not even to feed herself. While they are kept in bed they are fed frequently and largely, and passive exercise employed by means of manipulation and faradization of the limbs. During this time the patient can be brought under good moral influence.

After a few weeks we find that we can get the patient up and make her walk abont. Our results in this very troublesome class of patients are remarkable, and I believe one great element of success depends on having the patient in the hospital under our immediate and constant observation, and away from the interference of injudicious friends.

In two patients of my own, one sixteen years of age and one eighteen, the first had not walked for six months and the other for nearly two years. The legs were atrophied to a remarkable extent, and had every appearance of paralyzed limbs. In one there was anæsthesia below the knees, and she said she did not feel a strong faradic current, although the muscles responded readily to a current of moderate intensity. Both of these young girls made good recoveries.

We have at present in the house an interesting case of what Dr. Seguin has called "spinal paralysis of the adult." The patient, a man of twenty-two years of age, was seized with fever and violent pain in the back, coming on the day after he had bathed while overheated. The paralysis came on gradually in the left leg, and was complete in three days. After the leg had become palsied, the left arm became affected, but never was completely powerless. There was retention of urine for two or three days; no hyperæsthesia or anæsthesia of limbs, and no contractions The upper extremity recovered in a few days, but the leg was almost completely paralyzed when he was seen by us two years later. The muscles were atrophied and did not respond to strong induced currents, but was acted upon by the galvanic current. The limb bore a strong resemblance to one in a case of infantile palsy. This case will be fully reported, with some others of the same character, by Dr. Mitchell.

The electrical treatment is carried on in a thorough manner by a well-organized system. The patients who are ordered electricity come to the hospital in the afternoon, and one of the assistant physician or the resident physician is always in attendance. Each treatment is recorded in a book, kept for the purpose, and the number of electrical applications a patient has had can be readily ascertained by referring to this book.

Massage is becoming more and more used at this institution in the treatment of palsies, etc. We have two well-trained and skillful manipulators, one male and one female, who are employed during the morning hours by the hospital.

The benefit of this form of treatment is, I think, more particulary seen in local paralysis and in hysterical patients whose limbs have become cold and shrunken from long disease. It is also a most valuable adjunct to electricity in paraplegias, of whatever origin they may be.

The elevation of temperature in a palsied limb after manipulation is often remarkable.

DISORDERS OF SLEEP.

Dr. L. B. Edwards, editor of the *Virginia Medical Monthly*, in a note on a paper on "Some of the Disorders of Sleep," by Dr. S. W. Mitchell, says: "In cases similar to those described by Dr. Mitchell, as also in other acute neuroses due to the tobacco-habit—especially those cases marked by nervousness, muscular irritability, and tremor, etc., resulting from the abuse of *smoking*—the clinical experience of the editor has led him to lay great stress on the use of strychnia. The beneficial results of the treatment of the so-called tobacco amaurosis by strychnia, as also the known physiological antidotal effect of tobacco in strychnia poisoning, probably suggested the use of strychnia in cases of neurotic troubles resulting from tobacco. But while the editor is not aware of any publication on the subject here incidentally mentioned, he can not think that equally favorable results could have eluded the observation of those who have treated 'tobacco amaurosis' with strychnia; for in many of the cases of the so-called amaurosis so treated there must have been some of the symptoms here alluded to, which have disappeared rapidly under treatment of the amaurosis by strychnia. The most prompt and decided benefit of strychnia in controlling the acute shaking-palsy or tremor of the hands resulting from tobacco excess has been witnessed by the editor on two occasions in the same individual, when the strychnia has been used hypodermically in the forearm. In this case the patient recognized quite sensibly the physiological effect of strychnia when even a single dose of one twentieth of a grain was given by the stomach; hence only one ninetieth of a grain was given hypodermically. Within fifteen or twenty minutes thereafter the muscular control of the hand of the side in which the injection was made (right) was nearly perfect, and the general nervousness was perceptibly modified. Space here does not allow of a fuller statement of the clinical facts in regard to strychnia in tobacco neuroses outside of the so-called 'tobacco amaurosis.' Indeed, this hasty note has been added after an inquiry by letter of Dr. Mitchell as to his experience with strychnia in the class of cases referred to. He replies that he has long used it in like cases, but does not know of any publication of the facts, and therefore asks that a note be made of them. At a future time the editor will give more in detail the results of his observation of the agent, should the subject be deemed of sufficient interest, or should the details not be given by other observers."

RAPID DIMINUTION OF A REMARKABLY LARGE SPLEEN UNDER THE HYPODERMIC EMPLOYMENT OF ERGOT.

By J. H. Miller, M. D. Moberly, Mo.

Mrs. S., aged 28, married, the mother of three children, of previous good health, was attacked in August last with bilious fever, as she stated, recovered, but shortly relapsed, and has since that time been suffering from frequent attacks of intermittent fever of the quotidian type.

Her physician, not having been penetrated with the incandescence of advanced medicine, but a thoroughly sterotyped routinist, put her through on remedies of the most obsolete character; and what her disease had not already done for her, he very effectually accomplished.

On the second day of January I called to see her, and found her in extreme prostration and very anæmic with dyspepsia, neuralgia, a marked from of intermittent fever, and with a spleen of extraordinary dimensions; so large was it that the whole abdominal cavity, from the extreme left to the middle of the right hypochondrium, and from the umbilicus into the epigastrium, was occupied by its presence.

After improving her general condition by proper alimentation, by tonics, and by stimulants, I addressed my remedies more particularly to the reduction of the size of the spleen, and prescribed for that purpose large doses of quinine, chloride of ammonium and iodine, with iodo-croton liniment externally.

Having failed, after considerable perserverance with these remedies, to elicit a favorable response, I determined to abandon them entirely, and put the therapeutic power of ergot fairly to the test.

No other remedies were administered except tinc. gentian, ℥iii., acidi hydrocyanic dilut., gtt. xxiv., one teaspoonful thrice daily, for some gastric troubles which seemed to call for special attention.

On the sixth day of February I made the first hypodermic injection of ergot. I visited her again on the 7th, and made the second injection; and, although I did not find any diminution in the size of the spleen, yet discovered a very sensible change in its character and consistency. On the 8th I made the third injection, and at that visit there was a very perceptible shrinkage. Owing to professional engagements of a different character, I did not visit her on the 9th. On the 10th I made the fourth insertion, and found a very decided diminution in its size; and for four consecutive days I made injections with rapid and marked diminution. On the 14th, it had almost attained its normal size. Thus, from the 6th to the 14th, that enormous spleen had almost entirely disappeared under the hypodermic use of ergot alone. On the 4th of March I called in order to ascertain if the improvement had been permanent. She met me at the door with a recognition of complaisance and with expressions of profound gratitude. The spleen was normal.

EXTRACTS FROM HOME AND FOREIGN JOURNALS.

From the Nashville Journal of Medicine.

Improvement on Syme's Operation.—This modification of Syme's, employed by Mr. Joseph Bell for three or four years, and practiced in ten cases, he states (*British Medical Journal*, Oct. 2, 1875) will, he believes, "be found to give the advantages promised by Pirogoff's method, and yet to avoid the risk of recurrence of disease of bone in the portion of os calcis left in Pirogoff's operation.

' It is a very simple and slight modification, and consists in leaving attached to the flap the periosteum of the posterior part of the os calcis, and instead of dissecting the soft parts alone off the bone, stripping along with them the whole periosteum. In the case of amputation for disease of tarsus in children, this is done with the most perfect ease. It adds to the chance of vitality of flaps, diminishes the risk of sloughing and number of vessels to tie, and gives the most excellent results. Especially if the patient be encouraged early to move his flap by means of the tendons which soon take on new adhesions, we find that a considerable power of moving the heel flap over the end of tibia is saved, and, in some cases, a deal of new bone is formed from the periosteum. So much so is this the case, that in one patient on whom I operated in 1874, it was hardly possible to persuade those who saw the stump, that it was not a portion of astragalus which had been left, with the integrity of the ankle-joint preserved. As all the cases in which I have practiced this modification have survived and been successful, I have not found any objection to it, nor had the opportunity of making any *post-mortem* examination.

"One case had to be taken down about the fifth day for secondary hemorrhage from the posterior tibial, yet I did not find that the presence of the periosteum implicated in any way the subsequent secondary union of granulation which healed the wound."—*American Journal of the Medical Sciences.*

CHRONIC CYSTITIS TREATED BY PERINEAL SECTION.—A patient with syphilis has been suffering from hemiplegia. During the past year cystitis has developed. The patient does not complain of much pain, but there is a large amount of mucus discharged with the urine. Dr. J. W. Howe proposed to try the advantage to be derived from perineal section, and for this purpose cut down upon the staff in the usual manner, and then dilated the neck of the bladder by means of Molesworth's dilators. Since the operation the patient has done quite well. The bladder can be washed out without difficulty, and at the same time very thoroughly. No stone was detected at or before the operation.—*New York Medical Journal.*

SECONDARY GLAUCOMA IMPROVED BY REMOVAL OF LENS. — Three years ago a woman, 35 years of age, received a blow in the right eye, which caused dislocation of the lens into the anterior chamber. After the immediate effects of the injury had disappeared, the patient had vision, but the myopia was so great that the eye was practically useless. On one occasion the patient exposed herself to cold and contracted a secondary glaucoma. Five days after the onset of the glaucoma the lens was removed. The operation combated successfully the glaucoma, and, after it was recovered from, the vision was found to be equal to what it would have been had the lens been removed from any other cause.—*Ibid.*

DISLOCATING THE JAW FOR CHLOROFORM NARCOSIS.—Dr. Fleiberg, of Christiania, recommends the surgeon to deliberately dislocate the jaw, instead of pulling the tongue out with forceps, etc. It is easy to do this by placing both thumbs behind the symphysis, and both index fingers on the posterior edges of the rami, and dragging the bone forward. He seems to do it as a preventive, for he speaks of having done it *a thousand times.* Langenbeçk tells us that he and Esmarch have often done this. Perhaps these surgeons will tell us if dislocation often occurs spontaneously to those who have thus been treated.—*The Doctor.*

A SECOND CASE OF SYPHILITIC INFECTION, THE MEDIUM SUPPOSED TO BE THE SEMEN.—In the year 1867, X——— contracted six sores upon his glans penis, which he was informed were chrancroids by his surgeon (not the writer). These, he says, "readily" healed, and have left no visible evidence of their existence.

Last January he first applied to me for the treatment of a general feeling of malaise, and I at once suspected syphilis, knowing that his habits had been loose; his countenance was of a pale, dirty, yellowish tinge. I put him, however, simply upon a tonic of iron and gentian, and he immediately felt better. In about two weeks a syphilitic eruption began to show beneath the epidermis, and I gave him the mixed treatment, which held the eruption from further development, and finally dispelled it, but there followed mucous patches in the mouth, fauces, and nasal passages. He is positive that he has not had an abrasion, or any disease on the penis, since the year 1867; at present he is apparently cured.

As soon as he came under my care I warned him, very particularly, about the chances of communicating his disease to his wife, telling him that his semen might infect her. He said he would use every precaution, but he failed to do so on one occasion, and just four weeks subsequently I found her with four chancres, upon the labia minora, and, from the pain produced at the internal os by the application of the uterine sound, I judged of the presence there of another chancre. Secondary symptoms followed in her case, with mucous patches of mouth and nares, which have yielded to a mixed treatment.

I shall make no comments upon the case; the above are the facts, and the result, I think, has borne out the diagnosis.—*Archives of Dermatology.*

ON THE USE OF QUININE AS A GARGLE IN DIPHTHERITIC, SCARLATINAL, AND OTHER FORMS OF SORE THROAT.

By Dr. DAVID J. BRAKENRIDGE, Assistant Physician to the Royal Infirmary, Edinburg.

Since Binz published his famous experiments, showing the action of quinine on the white corpuscles of the blood, numerous authorities have confirmed and extended his observation. The following facts, among others, may now be regarded as established:—

1. Quinine is a protoplasm poison, and limits the number and movements of the white blood corpuscles and pus cells.
2. It prevents pathological migration of the blood corpuscles into the tissues of the membranous and parenchymatous organs exposed to the air, both when it is given subcutaneously and when it is directly applied to the part.
3. It restrains the dilatation of the blood-vessels.
4. It is an antiseptic, and exerts a paralyzing, or, in larger doses, a destructive influence on microzymes.

With these facts in view, the theoretical appropriateness of quinine as a gargle in diphtheria with abundant proliferation of micrococci, and in scarlatinal and various other form of sore-throat, especially when attended with membranous exudation, pultaceous secretion, or ulceration, is apparent, for it antagonises all the visible factors of such forms of inflammation.

Before employing it for this purpose, I was familiar with the use of a solution of quinine as a dressing in bed-sores and other tedious ulcers. The marked diminution in the secretion of pus and the rapid improvement which I observed to take place in these cases when so treated, first led me to anticipate good results from quinine as a gargle.

For the last four months I have treated every suitable case of sore-throat that I have met with in my wards, in the Royal Infirmary and elsewhere, with a gargle composed as a rule of two grains of sulphate of quinine and five minims of dilute sulphuric acid to each ounce of water. Sometimes I have been compelled to diminish it. When well tolerated, the stronger it is the better.

The results I have obtained fully confirm my favorable anticipations. From a considerable number of cases I draw the following conclusions;—

Simple non-syphilitic ulcers of the throat, under this treatment, at once assume a healthier aspect and heal rapidly.

In syphilitic ulcers, the local treatment has always been accompanied by the internal administration of iodide of potassium, or some other suitable constitutional remedy; but my impression is that in these cases the cure is hastened by the quinine gargle.

Its effect in the sore-throat of scarlatina is very marked, the pultaceous secretion being checked, and the inflammatory swelling diminished.

It is of comparatively little use in the early stage of cynanche tonsillaris, over which tincture of aconite in minim doses, frequently repeated, has so decided a control. When, however, abscess followed by abundant discharge of pus results, its beneficial effect in checking the suppuration and promoting healing is marked.

In the slighter forms of diphtheritic sore-throat it answers admirably, preventing the extension of the disease, and promoting the separation of the membranous exudation.

It is, however, in cases of true diphtheria that I hope it will prove most useful. I have now employed it in three cases of this disease, and in all the result has been highly satisfactory.

Dr. Brakenridge then gives the history of a typical case of diphtheria, which he describes as one of "*unusual severity*," and in which this mode of treatment was adopted after having tried chlorate of potash and tincture of the perchloride of iron, internally, and Condy's fluid as a gargle, without any perceptible improvement to the patient. His formula was as follows:—

℞, Quiniæ sulphat, gr, xviii. ; acid sulphur. dilut.*m* xliii aquæ ad ℥ vi *M.*

This prescription was alternated every half hour with Condy's fluid, and the patient afterwards did well and made a complete recovery from the primary disease by the 13th day after the first attack.

I have found the quinine solution useful as a wash in aphthæ, stomatitis, and other affections of the mouth ; but my experience of it in these cases has been limited by the difficulty attending its use in childhood, owing to its every bitter taste.—*Practitioner.*

MORPHINISM AND ITS MANAGEMENT.

Dr. Lewistein, as we learn from the London *Medical Times and Gazette*, has given the name of Morphinism to the effects of chronic poisoning by this drug. The diseased condition thus produced, he observed, although it has become developed only within the last decennium, has assumed an extension which threatens to become formidable. With the exception of the induction of fatty degeneration, in all its main features it greatly resembles the condition induced by chronic alcoholic poisoning, so that there is even a delirium tremens morphii analogous to the alcoholic delirium. While alcoholism especially affects the lower grades of society, however, the victims of the morphia disease are found amidst the circles of the educated. By reason of the abuse of this drug grave disturbances in the functions of the entire nervous system are induced ; and the original causes of the production of this diseased condition, and of its extension, are the doctors themselves, who have accustomed patients to resort to the use of injections for the relief of painful affections of more or less short duration.

Examining a long series of cases, Dr. Lewistein finds that scarcely 25 per cent. recover, the greater portion relapsing. In two cases death followed on the marasmus that had been induced, two were terminated by suicide, and five became drunkards. The treatment of the affection chiefly consists in the withdrawal of the morphia, and this is best effected suddenly rather than progressively, the economy supporting an energetic procedure of this kind more easily than one more gradually conducted. The treatment of such patients requires much personal devotion on the part of practitioners, and is a difficult and thankless task. In the worse cases of this kind the deprivation of the morphia is not possible, unless they can be treated as prisoners. Complete isolation is then necessary, as is constant watching by educated persons inaccessible to bribery. Windows and doors must be carefully closed against the outer world. Articles of clothing, the furniture, and cupboards must be rapeatedly examined; for it is characteristic of these patients that, even when they enter an establishment voluntarily, to be cured of their propensity, they bring with them a good supply of morphia and several syringes! All promises, the most solemn assurances, and the word of honor given by these patients should be distrusted by their attendants. The morphia disease depraves the character of its subjects, and the best educated and most intelligent persons do not hesitate to resort to any means of deception in order to conceal the morphia they have, or to obtain a new supply. If the physician be energetic, watches his patient without intermission, and has honest attendants under his control, the worst part of his task is over at the end of the first week. Twelve hours after the deprival of the morphia a collapse usually ensues, and the patient may be allowed to keep his bed. If he passes over the first forty-eight hours without moaning and repining, and is able to eat, while his countenance seems fresh, he has, in spite of all his denials, obtained a supply of morphia; and the persistence of contraction of the pupils, with the absence of diarrhea, will soon confirm any suspicions that may be aroused. During the first six days the patient should not be debarred the use of strong and stimulating wines; and even women then require large doses of alcoholic drink. Prolonged baths may be employed for the relief of neuralgia or for promoting rest at night, and if too great collapse does not exist they may be accompanied with cold douches. The diarrhea which always ensues immediately on the arrest of the morphia, if it become exhausting, may be treated by large enemata of blood-warm water.

Microscopy.

MICROSCOPY IN ENGLAND.

In answer to an enquiry, the following letter has been received from Mr. John Mayall, junior: You wish to know what I have to say in reply to Wenham's letter in the March No. of the *Monthly Micro-Journal?* Wenham states: "The adjustment seems to be a stumbling block for those advocating an extra-immersion theory." I have never heard that it was a stumbling-block to any one but himself. He then says, that in my description of the 'demonstration,' to which he challenged me, I overlook certain facts that were shown of vital importance to the truth of his statements regarding the balsam-angle of Tolles' 1-6; the statement in question being, that with a slit of 1-50th of an inch, he measured the balsam-angle to be 68° (M. M. J., March, 1874). The facts which he says I overlooked are, that with a narrow slit of tin foil adjusted by himself, and with a slit consisting of a line ruled through a coating of black varnish, he measured the balsam-angle to be less than 68°. I regard his reference to these quasi-trials as evidence of the fatuity of his case; I think this can easily be shown.

Whatever methods are adopted for measuring apertures experimentally, the conditions of validity require that the results shall be uniform. With the slits referred to by Wenham, the results were different and irreconcilable—not only mutually contradictory but they differed from what he alleges to be the true angle. With the first slit he got no fair bi section of the field ; by a hap-hazard process of guessing he made the aperture to be about 34°, with the second he got about 40°. And he had affirmed the true angle to be 68°.

I hold these results to be utterly worthless—utterly vitiated by the imperfection of the slits, which obstructed the free intromission of the image-pencils. He admitted that with such badly adjusted slits no accurate results could be obtained.

The only reliable results obtained in my presence were those when the slits of leaf metal were adjusted centrally, with parallel edges firmly burnished down and made adherent to the focal plane. I adjusted two such slits, one with an opening of 1-50th of an inch, the other of .009 ; with both the measurement of the angle of the lens were the same—beyond 90°. It was the trial with this slit of .009 that concluded the demonstration, and not, as Wenham erroneously states, with his black varnish slit. I adjusted this slit, because he admitted the entire failure of those he had made.

Wenham says we could not agree upon the width of the slit. But our antagonism on that subject was only brought to light when he had witnessed invincible evidence that with a slit of 1-50th he could not do otherwise than corroborate Tolles' measurement. On the previous day he had read to me his paper in the *Journal*, March, 1874, where his trials of the lens are described. I called his attention particularly to the statement that the "stop" he had used was 1-50th, and he dwelt on the point—saying he was quite certain everything there written was accurate. It is thus seen that previous to our final experiments I had his distinct admission that 1-50 was the size of the "stop" he had used in the measurements recorded in his paper. It was only after actual experiment in my presence had quashed his report that he faced about, trying to excuse his enormous blunder. After a most carefully conducted measurement with the slit 1-50 had corroborated Tolles' statement that the balsam angle of the lens is nearly 100°, and consequently refuted Wenham's that it was 68°, Wenham was so astonished that he could hardly speak ; on recovering himself he said : "You seem to have come here to get me to verify Tolles' measurement ?" Then he declared the slit was not small enough ; that if it were small enough we should obtain his former result. I reminded him that his own words described the "stop" he had used to be 1-50. He replied : "I don't care what I wrote—I've forgotten all about it ; if I said so it was a mistake, I know I used a smaller slit," and much more in the same strain. Then he attempted to adjust a narrower slit of tin-foil, and again of black varnish, with the results above mentioned. Wenham strove to make the whole subject turn on the use of his slits. It flashed upon his mind that to get at his former result he had only to contrive a slit that would *cut down* the image-pencils to 68° and he might delay admitting his defeat. All this was apparent from his excitement and from the eager manner in which he chuckled over the importance he would be able to give to his slit contrivances. I told him plainly I thought Professor Keith had disposed of them effectually, and that I saw nothing in them of any utility. I did not visit Wenham to discuss the utility of his slit contrivances, but to witness any valid measurement of the balsam angle of Tolles' 1-6 to be 68° or any other less than the true angle, 98°. I gave him ample opportunity during my four visits to prove his case ; he entirely failed to do so. The only valid measurements made in my presence corroborated Tolles'.

Before visiting Wenham I had measured the balsam-angle of the lens by the method known as Professor Robinson's—a method approved by Wenham in most positive terms, thus: "I consider that the most correct of all (methods of measuring apertures) is that proposed by Professor Robinson, which consists in passing the parallel rays of the sun through the back of the objective; and then by means of a white screen in a dark room intercepting the rays as a disk of light. The angle taken from the diameter of this to the focal point will give the true aperture." (M. M. J. No. 47, p. 233) Instead of the white screen, I used a cube of glass greyed on the under surface. In measuring the apertures of immersion lenses, they were accurately adjusted, and focussed on the upper surface through suitable covering-glass (balsam mounted) and with water contact. Wenham has admitted the use of the cube of glass in this manner in various communications to the *Journal.*

I may add that I submitted this method to the judgment of one of the highest mathematical authorities in England—Professor Stokes, the present holder of Sir Isaac Newton's Chair of Mathematics at Cambridge, and Secretary of the Royal Society—who gave it his unqualified approval. The measurement I obtained by this method was about 98°, and thus supported Tolles'.

As Wenham again declares he has measured the balsam-angle to be 68°, I am forced to infer that he has again done something "carelessly," omitted some essential item, perhaps did not make immersion contact, but used the lens dry. This is the more probable from the fact that he asserts the balsam-angle is the same whether the lens be used dry or with immersion. And now for Wenham's *piece de resistance*—his *triangle method* for determining the maximum angle of the lens. He measures the diameter of the exposed surface of the front to be .043 inch, which he calls the *base line*; then, taking the "immersion-focus" to be .025, he asserts the immersion angle to be "81½°." He has probably forgotten his previous results.! In the *Journal*, March, 1874, he gave .013 as the air-focus, with which he protracted a triangle that gave the aperture 118°, this would be about 69° measured as *balsam angle.* Again, in May, 1875 he gave .018 as the "thickness of glass the lens would just focus through," from which the balsam angle would be about 88°. He has said the balsam angle is the same whether the lens be used dry or with immersion, therefore the angles "81½°," 69° and 88° ought to be the same! According to his newest statement, they must all be wrong, because he says the "working diameter through which the rays pass was found to be only .033; the *base-line* of the triangles should then be .033, not .043!! Wenham, with his usual slipperiness, may escape criticism of this kind if he is allowed to excuse himself by the admission that his errors were "carelessly written," as he now alleges on behalf of his paper on Tolles' lens in the *Journal*, March, 1874. I must insist not only that the paper in question was "carelessly written," and ought not to have been published, but his present excuses are carelessly written, for he does not deny that the slit he used in 1874 was 1-50th, when he says he "had not then discovered the slit. The idea of this, and its adoption, was suggested by the conical aperture," he is writing carelessly again, for he described his slit contrivance in the same paper!

He appears to derive some satisfaction from the prospect that I shall attempt to "form an unprejudiced committee" to examine the aperture of Tolles' lens. I never gave a hint that I would undertake such a task. My offer to exhibit the aperture of the lens by his method, binds me to use a slit aperture of 1-50th, *and no other*—that being the size described in his paper of March, 1874. I think it very unlikely any committee could be got to serve on such a matter.

With regard to Wenham's claim to have been the first to make a contrivance, some twenty years ago, equivalent to the finest modern immersion lenses. As he will probably bring forward this claim again and again with a pertinacity in the inverse ratio to its justness, it should be observed he is wrong in alleging that his claim is "simply ignored" by myself and others. Not so; Dr. Woodward disposed of it in the *Journal*, March, 1874: "I cannot assent to his (Wenham's) implied claim that he was the originator of four-combination immersion objectives possessed of balsam-angle greater than 82°. In the experiments on which this claim is based, the hemispherical lens was united to the cover by balsam, and entirely detached from the objective. If the idea that the nearly hemispherical front of an objective, united to the cover simply by water-contact might play a similar *role* in transmitting pencils greater than 82° from a balsam-mounted object, ever occurred to him before I described the device of Tolles' in my paper last June (1873), he has certainly not put it on record."

In bringing forward this claim again, Wenham says he has lately applied an extra-front lens to a "combined immersion, and dry 1-5th. . . . and the result confirms the high opinion" he had formed of it when the idea first occurred to him (1855). In qualification of his prescience, it might be urged, why did he not in 1855 apply this extra-front to an objective? And the answer might be given in his own words: "I did not trouble the makers about adopting the plan, which I should have done had it proved of sufficient utility!" (*Journal*, March, 1874, p. 118). Again, it might be asked, is it true that its application to a dry 1-5th gives a result confirmatory of the high opinion he had of it when the idea first occurred to him, and which he now so unctiously repeats? The answer might again be given in his own words: "As an addition for improving a properly corrected dry lens it is useless!"—(*Ibid*) As to his general estimation of the value of the idea, of its practical use, his own words are so apposite that it would be unfair to omit them: "I hope that I may be acquitted of attempting to claim everything, and therefore leave to Mr. Tolles the honor of proving whether such a lens will be of practical use to microscopists." (July, 1873, p. 12.)

It does not appear that he thought highly of the idea at that date. He seems to have formed a high opinion of something which he did not think of sufficient utility to place before the opticians; he discarded it, and declared it to be useless; and now he would bring forward his addled fantasy, and call it forsooth the "root" of the most modern immersion lenses. If I might hazard a suggestion on the subject, it would be that probably in 1855 his experiment was confined to making a diagram, was not actually tried; and that since his attention has been called to the merits of Tolles' lenses, he finds it convenient and agreeable to pretend that he knew all about the subject at that date.

Wenham refers to his own contradictions as if they were expiated by his calling them "dubious sentences and anomalies of description." In going over the whole of his writings on microscopy, I have made a little collection of such *dubious sentences and anomalies of description*, including such as cannot be said to have any meaning; they are not very interesting I must confess. but they show him to have been most ardent in giving publicity to his notions, however crude or fantastical.

I had almost forgotten to request you to observe that Wenham speaks of the discussion on the aperture question as: "This miserable controversy." That is not the language of a successful combatant.

DUNKIRK (N. Y.) MICROSCOPICAL SOCIETY.

[These Proceedings should have appeared in a previous number but they got mislaid]

The monthly meeting was held at the rooms of the Library Association. President Blackham in the chair, with full attendance of members, and a number of visitors.

During the business session the following gentlemen were elected corresponding members: Wm. H. Walmsley, of Philadelphia, Pa., and George W. Fries, of Friendship, N. Y.

The scientific session was opened with an essay on the Anatomy of the Lepidoptera, by Rev. M. Adams. The essayist began by describing the general characteristics of the articulata; passing from that to the special subject of his paper, he took up in succession the insect crust, or body wall, the appendages (wings, legs, antennæ, etc.), the digestion, circulatory, respiratory and nervous systems; illustrating his points with colored drawings and diagrams. The theory of the development of appendages from original segments, (as in the case of the head, which was considered to represent several original rings, diminished as to size, but highly specialized as to function) was discussed.

The following objects were presented for examination: By the President—crystals of copper and of silver; petal of deutzia (stained); sections, transverse and longitudinal, of dogwood; hair of black squirrel; egg of bottle fly (gasterophilus equi), showing embryo; dog flea (pulex cans); tarasth of turkey; head of small fly (species unknown), of his own preparation. By M. Adams, Lithobius Americanus (?) with the following description: Newport describes worm as having simple eyes (sometimes without eyes), broad flat head, short antennæ, which are forty jointed, the body divided into fifteen tergites. The present specimen, found in a damp shed, has, as nearly as the imperfect mounting will show, but thirteen tergites, each antennæ is twenty jointed, and the eyes not perceptible. Legs and antennæ armed with short, sharp spines. The Lithobius is sometimes mistaken for larva of earwig.

Dr. C. P. Alling was announced as next essayist—subject, Report on the Decimal Lepidoptera in the Society collection. Adjourned.

Additions to library, by W. L. Carpenter: Reports on the Zoological Collections of Lieut. W. L Carpenter.

Additions to Cabinet, by G. E. Blackham: Transverse section elder pith, longitudinal section of dogwood.

NEW MICROSCOPIC AMPLIFIERS.

At a meeting of the San Francisco Microscopical Society, held March 16, the Rev. J. H. Wythe, M. D., exhibited two accessories for increasing the magnification of the microscope, which are said to have received the admiration of all present. We append his description, which was illustrated on the black board.

"From the great improvements in object-glasses, made within the last few years, it would be reasonable to infer that opticians have reached the limit of perfection in that direction, and that future progress in the power of the microscope must depend mainly upon the eye-piece, or intermediate arrangements of lenses between the eye piece and object-glass. A conviction of the possibility of improvement in this way has led me to many experiments during the last two or three years, and has resulted in the discovery of the amplifiers herein described, by which the magnifying power of an objective and eye-piece may be increased four-fold or greater, without apparent loss of definition.

"In the recent edition of "Carpenter on the Microscope" (1875), the only means of amplification suggested are the employment of deep or strong eye-pieces, and the use of the draw-tube. The aplanatic searcher of Dr. Royston Pigott (described in the *Microscopic Journal*) is referred to as an amplifier; but I have no experience in its use.

"The meniscus is said, by one of the journals, to have been used as an amplifier; but I have seen no description of it—the article to which I refer omitting to state whether it is a convex or concave meniscus, or how it is used.

"The above are all the suggestions I have found in microscopic literature. Experimenting upon the suggestions, I arranged the strongly-magnifying eye piece, which I exhibited to the Society upon a previous occasion, consisting of a deep convex meniscus, in place of the ordinary field-lens in the Huygenian eye-piece. This, tested upon the *Pleurosigma Angulatum*, etc., gave excellent results.

"Further experiments have led to the employment of the two amplifiers I now describe. Either of them is used in a sliding tube between the eye-piece and objective, and the proper position is found by trial.

"The first consists of a cylindrical lens, conical in shape, with the smaller end concave, toward the object glass, and the larger end convex. This gives a large increase of magnifying power and excellent definition when used with the strongest eye-piece of Gundlach, or other makers.

"The second form is better still, and consists of a double concave lens, having a virtual focus of about 1½ inches. at the end of a tube about six inches long, at the other end of which is the ordinary negative eye-piece.

"In both these forms the extent and flatness of the field is quite remarkable. as well as the amount of light, while the amplification is very great. With a periscopic eye-piece of Gundlach, or the No. III of the same maker, or with the strongest eye-piece of Crouch, my one-eighth objective defines the semi-lenses on the frustule of *Pleurosigma Angulatum*, the markings on *S. Gemma*, or *Grammataphora Subtilissima*, with a power of 4000 diameters.

"I have made some researches with the globe-lens of photographers, and some other forms, but at present those I have described yield the best results in my hands. If, in so simple a manner, which any possessor of an instrument can adopt for himself, the power of the microscope can be increased four or eight-fold, it cannot fail to be of service to science."

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MICRO-PHOTOGRAPHS IN HISTOLOGY.—Dr. Carl Seiler, in conjunction with Drs. J. G. Hunt and J. G. Richardson, of Philadelphia, we learn by a circular, proposes to commence the publication of photographic copies of microscopic pictures in histology, normal and pathological. These are designed to replace the microscope, as far as possible, for those physicians who have neither opportunity nor leisure to make observations with the instrument for themselves; and also to furnish microscopists, for comparison, correct representations of typical specimens in the domain of normal and pathological histology.

The work will be issued in monthly numbers, each to contain pictures of at least one pathological and three normal specimens, to illustrate the differences between healthy and diseased structures.

CENTENNIALOGY.

It is evident to the observant traveler that the American citizen will visit the American Centennial "by a large majority." We may even go so far as to say that we have failed to find, during the last two months, a single individual who does not propose to visit Philadelphia sometime during the coming celebration, unless that person is too young, or too old, or too sick to entertain the subject; and there are obvious reasons for this singular unanimity of purpose. People are altogether too apt to put off doing to-day what can, they fancy, be done just as well at some future time; but the risk one runs in postponing his participation in this Great National Festival until the next Centennial, is patent to the penetrative mind.

But jesting aside (for the subject is a venerable one and should be treated with due respect), our Centennial Exhibition is in commemoration of an event which a test of a hundred years has proven to be one of the greatest in the world's history, a round in the ladder of human progress; and that it will be celebrated in a manner in every wav worthy of its importance can not for a moment be doubted.

Never before has so much time, talent, and money been devoted to any exhibition, public or private, in this country. From a local affair it has grown to a be national one, from a national to an international one, until now there is scarcely a country under the sun that will not be represented there both by its people and its products.

Now, having made up your mind to visit the Centennial, the next important step to be decided is,

BY WHAT ROAD YOU WILL GO.

The journey upon which you are about to start is pre-eminently a pleasure excursion; you will, therefore choose a route which will afford the most pleasing variety of grand and beautiful scenery, and along the line of which are to be seen the greater number of objects of interest. You will, also, remember that comfortable surroundings are a necessary adjunct to the enjoyment of these pleasures. Be assured that no railroad in this country possesses any of these attractions in a greater degree than does the BALTIMORE AND OHIO.

Comfortably reposing in the luxurious coaches the delighted traveler is whirled past prosperous little villages, nestling in the laps of pleasant valleys. The undulating landscape is checkered with fruitful fields and dotted with happy homes. By-and-by the train begins to climb the mountains, and the tourist is ushered into the midst of the grander beauties of the

CHEAT RIVER REGION.

Lofty peaks tower, green robed and cloudcapped, above him; abrupt precipices stretch away beneath him into yawning chasms, grim and shadowy, far down the depths of which the mountain torrent rushes foaming and furious. Now grumbling and gnashing and frothing at the rocks that intercept its path: now lingering lazily in the shadow of an overhanging tree; now dancing and sparkling in the sunlight—anon the train circles round the edge of a great cliff that overlooks from its lofty height range after range of green hills that lie in terraces beneath; and, if it is early morning, the misty clouds that rest on them will blush at the greeting of the rising sun, then floating upwards will reveal glipses of beauteous valleys far beyond. Into these valleys the train rapidly glides; and, as the scene changes, its quiet beauty lulls the traveler into a feeling of lazy contentment, but you rouse yourself to take a long and earnest look at ever-memorable Harper's Ferry. Your attention is attracted to the old Engine House where John Brown was brought to bay. Its walls, all scarred and patched with fresh masonry, still bear evidence of that struggle which, insignificant in itself, foreshadowed a far greater one.

As the train moves eastward you can look far down the narrow defile, which opens into the lovely and fertile Shenandoah Valley, where were fought many of the fiercest battles of the late rebellion. The Potomac Valley, along which you are riding, has also been made famous as the arena where contending armies struggled for the mastery. Both Blue and Grey uniforms were seen in the streets of Cumberland, Harper's Ferry, Martinsbnrg, and Frederick. These landmarks in our Nation's history will be viewed with a special interest at this time.

Before reaching Baltimore the excursionist passes through

WASHINGTON CITY,

and will hardly fail to take advantage of the privilege of stepping off to visit the Capital of our country; indeed, this alone would be well worth the journey you have taken. The City itself is beautiful; broad avenues, lovely parks, and costly residences are every-where to be seen, yet the Government buildings will probably engross your attention.

First in view, and first in interest, towering high above all the rest, is the Capitol; and however familiar we may be with pictured outlines and statistical descriptions of this stately structure, yet the imposing grandeur of its magnificent dimensions can not be felt until the building is actually seen. The lofty colonnades of classical style of architecture are far more impressive than the filagree embellishment of more modern schools, which, however elaborate and costly, would ill become the palace which enthrones the Goddess of Liberty, the headquarters of universal freedom.

To see this splendid edifice is something, but to enter those rooms whose walls have echoed the fiery and incisive oratory of Webster, the logical and persuasive eloquence of Clay, and from which have been issued edicts which have declared wars, offered peace, and freed a race of bondsmen,—this is much more. The great events of American history have been pictured on canvas, their heroes have been imaged in marble, and these mementoes of our country's glory greet one on every hand.

"THE WASHINGTON NATIONAL MONUMENT,

the loftiest monument on earth to a nation's greatest benefactor, the tribute of a grateful people to the Father of his Country!" * * * * So said Pierce, J. Q. Adams, Taylor, Polk, Gallatin, Fillmore, Clay, and Webster—a fitting testimonial to that great man, who in the combined character of Patriot, Soldier and Statesman, stands without a rival on the roll of fame. The monument (to our shame be it said) is not yet completed, but is being pushed to perfection; and enough has been done and that of a character to make this one of the most interesting sights in Washington.

MOUNT VERNON

being but an hour's ride from the National Capital, a genuine Centennialist will hardly fail to visit it. A *steamboat excursion* will add a delightful variety to your journey by rail. The excursion itself will be a pleasant one, for the steamer which will convey you will be swift and comfortable, and the banks of the Potomac River are lined with lovely and interesting views. And who would deny himself the privilege of visiting at this time (and it may be your only opportunity) the hallowed spot to which, his great work ended, our noble George Washington retired to spend, in well-earned repose, the last years of his eventful life.

After leaving Washington, Baltimore, and the Baltimore & Ohio Railroad, many scenes worthy of your attention are passed *en route* via the Philadelphia, Wilmington & Baltimore Railroad.

Arrived at Philadelphia the *Philadelphia, Wilmington & Baltimore Railroad will land you at the Centennial grounds*, or at Broad and Prime streets, as you may prefer. You will reach your destination fresh in mind and body, for your journey will have been both entertaining and comfortable.

And now one word more: We said that luxurious surroundings are necessary to the enjoyment of the pleasure of sight-seeing; the Baltimore & Ohio Railroad has provided for this. Pulman Palace Cars will be run through from principal cities in the West, Northwest, and Southwest, without change. Elegant upholstery, costly ornamenting, and improved mechanism combine to make the Day Coaches as nearly perfect as any that can be found.

HOTELS

are so distributed along the line that travelers are enabled to take their meals at reasonable hours; with plenty of time for the enjoyment of them.

Finally, the BALTIMORE AND OHIO RAILROAD WILL CARRY YOU AS CHEAPLY AND TREAT YOU AS WELL AS ANY OTHER LINE CAN POSSIBLY DO.

TRANSLATIONS.

By W. A. ROTHACKER.

MEMBRANOUS DYSMENORRHœA.

Dr. Hermann Beigel, in the "Archiv fur Gynœkologie" Heft 1, 1876, has a most able article on this subject, covering thirty pages of the journal. He makes the following definition of the disease.

"Under the name 'Dysmenorrhœa Membranacea,' or 'Decidua Menstrualis' we recognize that pathological event which consists essentially of a discharge from the uterus of shreds of membrane, or of a sac-like membrane having the shape of the uterine cavity, *i. e.* triangular, and perforated by three holes, the two smaller being the uterine openings of the fallopian tubes, and the larger corresponding to the os internum. The expulsion of this membrane takes place either regularly at each menstrual epoch, or at longer and irregular periods. The process is accompanied by severe cramping pains, which usually cease on the discharge of the membrane, after which the blood-flow sets in."

The writer then gives a complete *resume* of the literature of the subject, with an account of his own researches, and concludes as follows:

"I can place the results of my investigations under the following propositions.

1. The so-called dysmenorrhœa membranacea is a result of primary or secondary disease of the uterine mucous membrane, *i. e.*, endometritis.

2. The characteristic of this disease consists of a pathological change, by which, through great proliferation of cells it (the mucous membrane) is lifted from the underlying tissues and cast off either in shreds or in its entirety.

3. The expulsion is as a rule caused by contraction of the uterus following a hemorrhage, menstrual or intermenstrual, and is accompanied by great pain, brought about by the plugging of the os internum by the membrane, and the consequent retention of the blood within the cavity of the uterus.

4. As menstruation plays a secondary role in the development of this affection, and as the formation of the membrane has no connection with conception or abortion, it seems proper to drop the terms "dysmenorrhœa membranacea" and "decidua menstrualis," and to substitute for them the appellation "endometritis exfoliativa."

5. Microscopic examinations of the exfoliated membrane do not yield like results. In one set of cases the membrane is composed of the normal elements of the uterine mucous membrane, pathologically increased; in another, certain of these elements, such as the glands and epithelium, are degenerated or have disappeared; in a third class embryonic connective tissue; and in a fourth, squamous epithelium, or cells which closely resemble it in structure, alone or together, with embryonic tissue, make up the body of the membrane.

6. In all cases there is a production of round free cells, which is the special cause of the loosening of the mucous membrane from the tissues beneath.

7. The pathological change in the uterine mucous membrane in endometritis exfoliativa seems to prevent the development of a fecundated ovum, therefore patients afflicted with this disease are sterile.

COMPRESSION OF THE AORTA IN POSTPARTUM HEMORRHAGE.

Compression of the aorta in post partum hemorrhage, although a remedy well known, is not practiced as its merits deserve. In the year 1828 Baudelocque proposed this measure, recommending compression through the abdominal walls, which he says has not only the effect of stopping the hemorrhage, but also brings about contraction of the uterus. The objections to this operation, viz., that it produces congestion of the heart and lungs—that the same pressure which is exercised on the aorta compromises the vena cava inferior—have, according to Baudelocque, no foundation. In Germany Ulsamer advanced this method as early as 1825. Siebold, who at first brought many arguments against it, later acknowledged its great usefulness. He insists on compression until the uterus is firmly contracted, the pulse full, and the circulation again regularly established. Eichelberg suggested that compression of the aorta might be made with the hand in the uterine cavity. Ploucquet tried this plan, but it was soon abandoned, from the fact that the hand in the uterus prevented the proper contraction of that organ. Dubois in 1838 expressed his doubts as to the value of the measure. Seutin, but more particularly Chailly-Honore and Cazeaux have so strongly combatted the opinion of Dubois, that compression is again coming into considerable notice.

Dr. Leon Gros (Bull de Ther. lxxxviii) has detailed six cases where through compression of the aorta he saved the lives of six of his patients suffering from hemorrhage after delivery. His fifth case confirms the belief of Cazeaux that compression not only shows its great usefulness by stopping the blood flow until efficient contraction of the uterus takes place, but it has a valuable remote effect. The deaths which occur some hours after the hemorrhage has entirely ceased are brought about by anaemia of the brain and spinal cord. By persistent compression of the aorta, care being taken not to include the vena cava inferior, this dangerous anaemia of the nervous centers is prevented, especially if auxiliary measures be used, such as lowering of the head and the prevention of exhaustion by suitable stimulation.—*Schmidt's Jahrbucher*, February, 1876.

SALICYLIC ACID AS AN ANTIPYRETIC.

(Riess Berlin Klin. Wochenschr. Nos. 50 and 51). Riess, who bases his conclusions on the observation of over four-hundred cases, used for a short time the salicylic acid but in the great majority of cases salicylicate of soda, giving the salicylic acid in a solution of phosphate or carbonate of soda, so that 5 grammes (75 grs.) of the remedy were administered at a dose. This dose was seldom exceeded, and in children one-half the quantity was used. It was discovered that in this dose the temperature was reduced in persons without fever; thus in twenty-three experiments the average reduction was about 0.9° C. (1.3 F.) in from four to six hours; the pulse rate was not altered. In fever patients the reduction was 2, 3, sometimes as much as 5 or 6° C (3.5 to 10.5° F.) and often in one or two hours. This effect was more limited and shorter in duration the more intense the febrile action. The reduction in temperature was very little in the defervescence during the last days of sickness, so that the difference in the effect of the remedy might be used as a means of prognosis. In favorable cases the return to the rate of temperature, previous to the administration of the remedy, was not reached until twenty-four hours had elapsed. The use of this remedy in typhoid fever adduced some very interesting results. Two hundred and sixty cases, of these two hundred and nine being new, were treated with salicylic acid. The temperature was taken every two hours, and as soon as it rose above 39° C. (102.2° F) the above dose (75 grains) was administered. In tolerably severe cases it was only necessary to repeat the dose every twenty four hours, indeed from the middle or end of the second week once in thirty-six to forty-eight hours. From the third week on the temperature seldom rose above 38° C (100.5° F), so that eight or ten doses sufficed to keep the temperature very near the normal. It was remarkable that the pulse rate remained unchanged, so that it was often 120 or more when the temperature was down to 100° or 101°. The pulse under this treatment became stronger, and the dicrotism of typhoid fever was not so well marked. There were seldom any bad effects from the remedy; these, when they occurred, consisted of dizziness, ringing in the ears, and flashes before the eyes. In a few instances there were disturbances of the mind. Vomiting followed very rarely, and symptoms of collapse occurred in only three cases (two being phthisis and one pneumonia). Perspiration was a common result of the administration of the medicine; sometimes the perspiration was very profuse.

In severe cases of the disease (typhoid fever) and those in which there were serious cerebral symptoms, baths were used in conjunction with the salicylic acid, and it appeared that the antipyretic effect of the baths was greater than when they were used alone. Although the other symptom of the fever, excepting the high temperature, still remained, yet the disease was commonly shortened in its course by the new treatment. In one hundred and sixty-four cases terminating favorably, in which the disease received early treatment, the mean duration of the febrile stage was 13 1 days. The character of the epidemic was very malignant, and the mortality was great. Out of the two hundred and sixty cases, 63, or 24.2 per cent, died. These statistics do not reflect unfavorably on the treatment pursued.

The antipyretic action of salicylic acid was established by its use in other acute diseases, viz., in croupous pneumonia (thirty-five cases, mostly severe, of which eleven proved fatal), in erysipelas (seven cases), and particularly in acute articular rheumatism (fifteen cases). In the cases of rheumatism not only was the temperature reduced, but the pain decreased, and of the fifteen cases, four after the first, and three after the second, dose exhibited a permanent improvement. Of chronic diseases attended with fever, thirty-two cases of phthisis were treated with a good result. It was found that the effect of the remedy was more certain when it was administered in the absence of the fever. The action of salicylic acid in intermittent fever was found to be very uncertain. Of nine cases, in two the paroxysms were checked at once, in two after repeated doses; in the remaining five cases the disease was controlled immediately by 15 to 30 grains of quinine. In no cases where this remedy was used could any lesion of the mucous membrane of the alimentary canal, such as ulceration or erosion, be attributed to its use.—*Centralblatt*, No. 11.

DIABETES CAUSED BY TUMOR OF THE PNEUMOGASTRIC.

(*Gaz. Hebd.*, 1875, No. 35.) A healthy man, having no hereditary predisposition to the disease, was seized with diabetes, and died after an illness of two years. No cause could be assigned for the disease. The post-mortem revealed a tumor of the right pneumogastric nerve, situated at the point where the nerve crosses the hilus of the lung The nerve trunk was completely lost on the surface of the tumor, and at its point of issue was considerably reduced in size. A short distance further on the nerve regained its normal size.—*Centralblatt*, 1876, No. 12.

OBITUARY.

Since the last issue of the NEWS death has removed from among us two prominent citizens of Cincinnati, and eminent members of the Medical profession viz., Dr. Stephen Bonner and Dr. J. S. Unzicker. Dr. Bonner died Tuesday, April 4th, and Dr. Unzicker Monday, April 13th.

A meeting of the physicians of the city was held at the Congregational Church, northeast corner of Eighth and Plum streets, April 5, for the purpose of taking action on the death of Dr. Bonner. The gathering was quite large, and the most profound regret was expressed by all at the sad event which had occasioned the meeting.

Dr. M. B. Wright was called to the chair, and Dr. T. H. Kearney acted as Secretary.

A committee was appointed on resolutions, consisting of Drs. Murphy, Muscrott, Lawson, Tate, and Dawson. The committee reported the following:

"Dr. Stephen Bonner is dead! In him the profession loses one of its oldest members. For quite forty years, in summer and winter, day and night, he has labored successfully and faithfully. Generous and benevolent even to a fault, and to all men, he was the uplight and high-toned gentleman in his relations to his brethren. Few men exhibited through so long a professional career the kindly manner, benevolent disposition, and honest action of Dr. Bonner.

"He was the friend of the poor; and in saying this we scarcely express the arduous labor and kindly disposition of the man in serving those who, really poor, are without friends and money. No one was turned away from his door, if health permitted him to serve him. He enjoyed the confidence, in his best days, of a large number of the people of this city. His success as a physician was excellent, and to those of us who enjoyed his friendship for the last thirty years, it is a pleasure to remember him as a good physician.

"*Resolved*, That in the death of Dr. Bonner the city of Cincinnati loses a good citizen, and the medical profession a most useful and successful member.

"*Resolved*, That a copy of these resolution be published in the daily papers and medical journals of the city.

"*Resolved*, That a copy be also sent to the family of the deceased, with the sympathy of the profession in their bereavement."

Remarks were made by Drs. John Ludlow, Tate, Murphy, Muscroft, W. T. Brown, Dawson, McMechan, W. B. Davis, but we have only space for the following tribute to the character of the deceased delivered by Dr. M. B. Wright:

Last evening, while resting from the fatigues of the day, I received the visit of a medical friend, who said, "Well, our friend Dr. Bonner is gone." It was a feeling repetition of what I had heard during the day. Although too much indisposed to portray in fitting language the character of the deceased, my early friendship came back so warmly to my heart I was irresistibly led to note some of my recollections.

More than thirty years ago I received the cordial greetings of Dr. Bonner and the grasp of the hand that bespoke the sincerity of professional and social recognition. From that time on, during a long period, I had repeated and abundant opportunities of testing and knowing his professional worth. He was eminently a practical man, indulging in theory only as a pastime, and not a platform upon which to hazard life. He was firm but not dogmatical in his opinions, even when sustained by the results of experience. A cautious and safe practitioner, he deprecated fearful risks. He was courteous in council and delicate in the expression of opposite opinions. A desire to shield a brother from unmerited reproach was, with him, a virtue. No one ever heard him utter the equivocal expression, "I ought to have been called earlier." To the young men of the profession he was affable and communicative, and to the older an agreeable and fondly cherished companion.

Among medical, as among other men, are to be found traits of character widely opposite. While one is ever ready to exercise a spirit of forbearance, another is impelled by a spirit of fiery zeal. Dr. Bonner possessed much of the former, and I found him on several occasions an efficient aid in settling professional disputes. And when he himself was involved in trouble he was always willing to receive and be influenced by friendly advice.

No physician in this city ever endured more heat and cold, sunshine and storm, weariness by day and wakefulness at night, without a murmur, than did Dr. Bonner. And no man among us ever performed more unrequitted service. To sum up all in a fitting sentence—a good man has gone to his rest.

A meeting of the members of the medical profession was held April 10th in the hall of the Academy of Medicine, to take action upon the death of Dr. J. S. Unzicker.

Upon motion of W. H. Mussey, Dr. Benjamin Lawson was called to the chair, and Dr. C. P. Judkins chosen Secretary.

A committee of six was appointed to draft appropriate resolutions. It consisted of Drs. Bartholow, Quinn, Mussey, White, Muscroft, and Brown. They reported a preamble and resolutions, which were adopted as read:

The members of the medical profession of Cincinnati here assembled, have met to honor the memory of their late colleague, Dr. J. S. Unzicker, and to express their sense of the great loss which they have sustained in his death.

As a citizen, physician, friend, and parent, our colleague discharged all of his duties with the utmost fidelity.

As a citizen, Dr. Unzicker was keenly alive to all public interests, and always exerted his influence on the side of social order, and for the mental and moral improvement of society.

As a physician, he was pains-taking, honest, and skillful, mindful of his own self-respect under all circumstances, but full of charity and consideration for his patients. He was earnest and diligent in study, and laborious and faithful in bringing the results of his study and experience before the societies of which he was always a most attentive member.

As a friend, Dr. Unzicker was invariably loyal, just even to his enemies, and he had a ready and generous appreciation of what was good in all men, while he had a hearty detestation of sham.

As a parent, those who had the privilege of seeing something of his domestic life know how kind and considerate he was in all the relations of husband and father.

So good and true a man deserves our highest admiration, and should be held in tender remembrance.

As an evidence of our respect for his memory.

Resolved, That we attend the funeral in a body.

Resolved, That the resolutions and minutes of this meeting be published and communicated by the Secretary to the family of the deceased.

Addresses were made by Dr. C. F. Bruckner, Dr. J. L. Vattier, Dr. Bartholow, Dr. White, Dr. Lawson, and others, who bore united testimony to the learning, honesty, and kindly feeling of the venerable physician.

Book Notices.

THE STUDENT'S GUIDE TO THE PRACTICE OF MIDWIFERY. By D. LLOYD ROBERTS, M. D., M. R. C. P., London; Physician to St. Mary's Hospital, etc. 12 mo., pp. 316. Philadelphia: LINDSAY & BLAKESTON. Cincinnati: R. CLARKE & CO. 1876.

This little work on obstetrics we are sure will be welcomed by every medical student. It is the most complete work of the kind with which we have ever met. It is just the thing for a student attending lectures, and has not time to consult larger works. While it is not like some manuals, which omit as much important matter as they present, its descriptions are brief and are readily glanced over.

But while this manual is written mainly for the instruction of students, it will often times be found of service to practitioners whose scant leisure may make it difficult for them to consult larger works. It has been the endeavor to present as complete a view of obstetrics as the compass of such a work would permit.

Editorial.

SHORTENING THE TIME OF STUDY. — The *Medical Record*, of New York, whose editor has constituted himself the exponent of the ethics of the profession, and claims to regulate the status of his medical brethren, not in his city alone, but throughout the United States, rends his hair and distorts his countenance over the fact, which he has just learned from Bro. Gaillard, of Louisville, Ky., that certain medical colleges in the United

States hold two graduating terms each year. He says that it is "high time that the profession looked this matter fairly in the face ; it is high time that this monstrous evil should be in some may remedied."

We are astonished that the worthy editor should have been so long in ignorance of a fact that we had presumed every cross-roads doctor in the United States was familiar with ; and especially so when we call to mind that the *Cincinnati College of Medicine and Surgery*, one of the so-called "two term" institutions, like a good many other schools did for awhile, kept its advertisement in the *Medical Record* containing the information for some two or three years under an arrangement that for twenty-five dollars the advertisement should appear in every number, and that each instructor, ten of them, should receive a copy of the *Journal* gratuitously. (The subscription price being $4 a year, forty dollars' worth of subscriptions and the advertisement was given for $25). The gentleman's memory is very short indeed, for he seems to be only just now awakening up as from a dream to a matter that has been a long time existing. He is a poor watchman on the wall to give warning of passing events.

But we would be very happy to be informed what reasonable objections can be brought against holding two courses of lectures each year ? Many students, who can not conveniently attend upon a fall and winter term, can attend upon a spring and summer term. Why should such not be accommodated ? Is there any law divine or human that limits the time of a session to any particular period of the year ? If there is we have never heard of it.

In days that are past, men were persecuted who, in religious and political matters, did not think and act in a groove run for them by certain individuals who set themselves up as arbiters, and who arrogated to themselves the right to direct what their fellows should eat and what they should drink, and wherewith they should be clothed. But such restraints are now cast off, and men think as they please and do as they please guided only by the recognized rules of religion and morality. As to what they shall eat, drink, and wear, and whether or not they shall observe certain so-called holy days or feast days, they do as they please, and pay no attention to any one's dictum. But certain medical gentlemen of the nineteenth century would still maintain the groove for their professional brethren ; would still insist that physicians, teachers of medicine, trustees of medical colleges, should have their thinking done for them, and should act according to direction.

The *Cincinnati College of Medicine and Surgery*, with a number of other medical colleges in the United States, has held two sessions a year, for several years, and will continue to do so as long as its Trustees and Faculty feel disposed so to do. Its alumni are numerous and will compare very favorably with those of any other medical college. Very many of them hold a first rank in the profession. The requirements of the school are the same as those of all first class colleges, and are rigidly enforced ; namely—"The candidate for graduation must be twenty-one years of age, and must present proper testimonials of good moral character. He must file with the dean evidence *that he has studied medicine with a regular physician at least three years*. He must have attended two full courses of lectures—the last in this college. He must have engaged in dissections under a demonstrator of anatomy at least one session. And he must exhibit evidence of having attended upon at least one course of regular clinical instruction in a hospital recognized as properly equipped to give clinical instruction."

Now having adopted the highest standard of requirements, which it rigidly enforces, whether it shall hold one or two sessions a year, what fees it shall charge, et cetera, are matters which pertain exclusively to the *Cincinnati College of Medicine and Surgery*, and in regard to them it proposes to do as it pleases, uninfluenced by threats or abuse.

We will here mention a benefit that has come to light in the experience of the *Cincinnati College of Medicine and Surgery* holding two sessions a year; namely—many students are induced to attend three terms who would otherwise attend but two. Many students having attended a fall and winter term, or a spring and summer term, and not being able to complete their three years' course of study as required, before becoming candidates for graduation, until the close of the next fall and winter term, or the next spring and summer term, as they will only be charged for two terms, attend the intervening session. So frequent has this become that the faculty has now provided for a course of graded instruction for such students—permitting them, under the direction of the faculty, to pursue and complete certain branches of the curriculum of studies each session. In this way the absurdity of recent and advanced students attending upon the same instruction is done away. So soon as the other colleges of the country have *advanced* sufficiently to make it prudent to do so, the Cincinnati College of Medicine and Surgery will make attendance upon three courses of lectures obligatory. Under present circumstances attendance upon a third course has to be left optional with the student.

The editor of the *Medical Record* or any one else is entirely at liberty to "look the affairs" of the Cincinnati College of Medicine and Surgery "fairly in the face," and probe any "monstrous evil" that may come to light in the investigation.

MEETING OF REPRESENTATIVES OF MEDICAL COLLEGES.—It is proposed at the coming meeting of the American Medical Association at Philadelphia, to call together the representatives of the various medical colleges present to consider matters pertaining to reform in medical college work. It is suggested that the time for the meeting be Friday, June 2, 1876.

We most decidedly favor the movement, and among other subjects to be brought up and urged for adoption, we would suggest recommending to all the colleges making three courses of lectures necessary for graduation.

CRYSTALLIZED GLYCERINE.—Glycerine is purified by distillation in vacuo; to the distillate, cooled by surrounding ice-water, a trace of crystallized glycerine is added, causing a very slow and gradual formation of crystals—so slow as to require hours to obtain a few hundred grammes. At least this is the case when operating on a small scale. Cooling the glycerine below 0° C. retards crystallization very considerably, owing to the vicosity of the liquid; at—20° it becomes doughy and unmanageable. At 20 mm. pressure glycerine boils at 579° C. and the melting point of the crystals is 7° C. They belong to the rhombic system: the smaller crystals, which are exceedingly handsome, and while immersed in the mother liquor very lustrous and transparent, all are hemihedric.—*Pharm. Centralb.*

We would call the attention of delegates to the *American Medical Association* to meet in June in Philadelphia, to the advantages of the route over the Baltimore and Ohio Railroad. Passengers over this road pass through Washington and Baltimore, and can stop over without extra charge. Besides, the scenery along the route is the finest in the world. If a sufficient number of physicians and their families will start from Cincinnati on any one day, Mr. Thos. P. Barry, Western Passenger Agent, will appropriate a car to their exclusive use.

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Original Contributions.

RETENTION OF URINE — STRICTURE — AN INTERESTING CASE.

By D. D. BRAMBLE, M. D., Prof. of Surgery.

Clinical Lecture Before the Dispensary Class of the Cincinnati College of Medicine and Surgery.

GENTLEMEN.—The patient I bring before you to-day is one whose case unfolds to us a large field for profitable as well as interesting investigation; profitable by inciting us to the more energetic prosecution of the search for that knowledge which will enable us to successfully combat the difficulties we have here to encounter, and restore our patient to that status of ease and comfort to which he has so long been a stranger; and interesting from the persistent and steady progress the disease has made, thus showing to us the many pathological changes that can be brought about from what is ordinarily nothing more than a simple inflammatory action, whose natural tendency is curative, either with or without treatment.

From the history of this case we learn, first, that he suffered many months from retention of urine. Retention of urine is caused by inflammatory swelling in the deeper part of the urethra; by stricture; by impacted calculi or other foreign bodies in the canal; by paralysis of the bladder; by enlargement of the prostate; by pelvic tumors. This retention may be complete, that is, when not a single drop of urine can be forced out; and incomplete when a very small stream is passed, or the urine dribbles. Incomplete retention of urine is also called chronic retention, since it often exists for months. The terms employed to express the three periods or stages of retention from obstruction of the urethra are, first, dysury, that is when the urine is voided in a small or diminutive stream; second, strangury, when it escapes only in drops, with much straining; third, ischury, when none can be passed.

The cause of retention in the case before you was due to stricture of the urethra, from which the patient suffered for months with strangury, or dribbling of urine. Let me here remind you that this condition is often confounded with incontinence of urine, that is, an inability of the bladder to retain urine at all, which is of rare occurrence, while the dribbling from an over distended bladder is very common, and is an almost sure indication of retention of urine.

Stricture of the urethra occurs with comparative frequency in every rank and station of life; the worst and most complicated cases are to be found among the poor, who do not understand the gravity of the complaint which is so insidious at first, and who very often have neither the time nor the means necessary for its successful treatment. This you have fully illustrated in the case before you. When the retention remains unrelieved, the urethra is liable to give way behind the seat of obstruction, the fluid being thus permitted to escape into the neighboring connective tissue, constituting what is denominated extravasation of urine. Before the urethra gives way certain pathological lesions occur in consequence of the neglected stricture. The most frequent lesions of the canal in long standing strictures are dilatation behind the stricture, with attenuation of its walls. The mucous membrane of the distended urethra is also in a state of chronic inflammation, often leading to ulceration. The rupture takes place in the thinned urethra behind the stricture during an uncontrollable violent straining effort, and the urine is extravasated into the surrounding connective tissue. The tissues thus acted upon by the urine become rapidly gangrenous, and unless relief be promply rendered the result will be disastrous. An anatomical fact worthy ot your bearing in mind in this connection is, the close relationship or attachment of the superficial fascia to Poupart's ligament, and to the rami of the pubes and ischia, thus causing the urine to take a forward and upward direction from the perineum into the scrotum and penis, both of which become enormously distended in a very short time. If a still greater quantity of urine is forced out of the bladder the infiltration will extend to the hypogastric, and sometimes to the lumbar and thoracic regions.

Now, what took place in the patient before us? As we have already stated, he suffered with strangury or dribbling of urine for months. He informs us that while tortured with an uncontrolable fit of straining to relieve his bladder he felt something give way suddenly within him, and at once experienced temporary relief, but to his surprise no urine had come away. In a few minutes this relief was succeeded by great swelling of the scrotum and penis, accompanied by intense burning, and, in the language of the patient, " like a burning coal of fire," which was succeeded by great depression. A few hours after the extravasation the parts assumed an erysipelatous redness, which soon changed to a dusky hue; and notwithstanding free incisions were promptly made to relieve the tension and allow the escape of the extravasated urine, the skin became gangrenous, and when the sloughs came away the testicles were left denuded, and supported only by the spermatic cords. At present we find the scrotum and surrounding parts greatly deformed and indurated, containing cavities in which pus and urine linger, thereby giving rise to urinary abscesses from time to time. There are also a number of openings, with pouting lips; these are the mouths of sinuous canals communicating with the urethra, from which issue pus and urine, and are denominated urethral fistulæ. He has also stricture of the urethra.

Gentlemen.—In taking a brief review of the history of this case you will note that the patient has suffered from frequent attacks of urethritis, which has been followed by permanent stricture. This caused retention, which has in turn caused chronic cystitis. And the constant effort of the distended bladder to rid itself of the contents produced the pathological changes in the urethra which we have referred to, and was followed by rupture of the urethra and extravasation of urine, following this gangrene and sloughing, so that at the present time he has chronic cystitis, permanent stricture, urinary abscesses, urinary fistulæ, and great deformity of the external generative organs. The indication for treatment is to overcome the permanent stricture, which can be done by thorough dilatation or incision of the strictured portion of the urethra, or by these methods combined, after which we expect a large majority of simple fistulæ to cicatrize without further trouble; but where there is as much induration of the scrotum and perineum as we find present in this case, we will have to direct our treatment to the fistulous channels themselves in addition to dilatation. This consists in the employment of injections in the fistulous channels of tincture of iodine or nitrate of silver; if these fail the fistula must be laid freely open and dressed with lint to secure union by granulation.

THE EFFECTS OF OPIUM ON THE MIND WHEN THERAPEUTICALLY ADMINISTERED.

By CHAS. REED, M. D., Cincinnati, Ohio.

In the medical legal case of Fleming *vs.* Riddle, *et. al.*, Probate Court, Butler county, Ohio, the long continued therapeutical use of morphia was brought forward to support the plea of imbecility. In the course of the examination of medical witnesses one of the important questions propounded was in effect, does morphia produce the same deleterious influence on the brain and mind, when given for the relief of pain, that it does when taken to gratify a morbid appetite? In answering this question expert testimony was in conflict. Dr. Cyrus Falconer, of Hamilton, Ohio, answering in the affirmative, while Prof. J. A. Thacker and myself answered in the negative. In view of this difference of opinion on an important therapeutical problem I deem it prudent to give public expression to the reasons upon which I base my opinion.

The condition of chronic poisoning by morphia, termed morphinism, by Dr. Lewistein (Cincinnati MEDICAL NEWS, May, 1876), is one that begets fatty degeneration of the brain. This form of degeneration is dependent upon defective nutrition, and consequent molecular inactivity of the part. How morphia effects this result is obvious when we remember that the cerebral congestion of opium narcosis is passive, and that the diminished frequency of the heart's pulsations results in the supply of blood to the brain being brought below the normal standard. This defective nutrition of itself has the effect of lessening the functional activity of the brain; but we are informed that morphia produces its anodyne and soporific effects by its direct action on the sensorium, and we have abundant evidence to support the supposition that the nature of this action is depressing or paralytic. The suspension of the functions of the brain incident to the administration of a full dose of morphia attests the accuracy of this statement. Molecular activity of the brain implies tissue disintegration that is manifested by the presence of solid excreta in the urine, etc. In three cases of morphinism that came under my observation the urine was examined with various results. In one case the phosphates were scarcely perceptible; in the other two cases they were present in the proportion of 2 and 2.5 parts in one thousand respectively. This is another fact that forms rather conclusive evidence in support of the theory that morphia arrests the molecular activity of the brain. Crebration, including ideation, sensation, consciousness, etc., implies a waste of the elementary tissue of the brain, which waste is commensurate with the intensity and duration of the mental act. Pain is a mental act, hence causes the same character of change in the brain that is produced by the exercise of any other of the faculties of the mind, although the degree of the change is much greater owing to the intensity of the shock. It is well known that pain forms one of the modifying influences of the effects of morphia, the system tolerating much larger quantities of the narcotic during the existence of pain, hence it is clear that its operation is opposed to that of pain. From the propositions heretofere presented it is evident that morphia produces its effect by paralyzing the molecular activity of the sensorium, and that pain produces the opposite condition. The joint operation of antagonistic forces of equal power produces no result, the one counteracting the other, hence it follows that if morphia be administered for the relief of pain in doses commensurate with the intensity of the pain, the result will be a counteraction of an abnormal, and consequent institution of a normal, condition of the brain—the organ of the mind.

By his opinion given in testimony Dr. Falconer placed himself in the ridiculous predicament of the mariner who launches his craft in the sea expecting it to sail north and south at one and the same time, as the Dr. appears to administer morphia with the expectation that it will produce good and evil results simultaneously. I have been careful not to assume that the Doctor's own experience has not justified him in his position and warranted his opinion, but if he has observed serious damage to the brain resulting from the administration of morphia for the relief of pain, the arguments that I have offered would indicate that he had administered the remedy in doses larger than was necessary to counteract the pain, and had thereby instituted another pathological condition directly the opposite of the pre-existing one. For such practice the profession does not hold itself responsible, nor upon such practice does it base its opinions.

MAMMITIS AND MAMMARY ABSCESSES TREATED BY BANDAGING.

By L. A. Dugas, M. D., LL. D., Professor of Surgery in the Medical College of Georgia.

Read before the Medical Association of Georgia, in April, 1875.

" There is nothing more trying to a woman than the supervention of inflammation of the breasts after parturition, and I know of no diseases more injudiciously managed by nurses, midwifes, and sometimes by physicians. All this mal-practice seems to me to depend upon an erroneous appreciation of the nature of the disease, and of the effects of the remedial agents employed.

What is it with which we have to contend ? The sage dame will reply, that the milk is accumulating faster than the infant can remove it, and that unless it be drawn off it will coagulate and form "cakes" in the breast. In order to avoid this caking, therefore, the mother is tortured with the frequent application of her infant to the nipple, the children of the neighborhood, the puppies, kittens, pumps of various kinds, and perhaps the mouth of the nurse herself, will be brought into requisition to accomplish the important purpose. But if, notwithstanding all these efforts "caking" of the breast take place, it must be "softened" by frictions with various liniments more or less irritating, by warm fomentations, hot and ponderous poultices, etc. The result of such treatment can easily be predicted, for it is difficult to imagine a plan better calculated to produce suppuration more or less extensively in the affected organ.

What, then, is the true nature of the affection ? In order to understand this we should bear in mind that the stucture of the breast is partly erectile, and that it may become the seat of a great afflux of blood under certain circumstances. Before child-bearing this afflux is limited to the nipple and its areola, and readily subsides after the occasional excitation has ceased. But when woman becomes a mother, the great determination of blood concentrated upon the uterus for the sustentation of the child during the preceding nine months, is now directed for the same purpose towards other organs. The offspring is now to be provided for at the great and marvelous founts represented by the mammæ; and this transition is more or less trying, especially when it occurs for the first time, and in a constitution enfeebled by the sedentary habits imposed upon women by the so-called refinements of high life. The determination of blood is then very great; perhaps greater than demanded by the requirements of the infant; and this congestion may run into positive inflammation and suppuration if not moderated. It is from this blood that the milk is secreted, and, when secreted, the milk remains in the milk tube until it is drawn off by the suction power of the infant's mouth. Whenever the child is applied to the breast, he not only draws what is in the milk tubes, but his suction provokes an afflux of blood to the breast and an increased secretion of milk so as to supply his wants. The flowing of blood into the breast is distinctly felt by the mother whenever she nurses the child, and is attributed by her to the flowing of milk. Now, milk does not *flow* into the breast; it is *formed* there. It should then be distinctly recollected that the child's suction is always attended with an increased afflux of blood to the organ. Any irritation or friction of the breast will produce the same result, and so will hot poultices and fomentations.

I have heard physicians urge in favor of multiplying the means of drawing off the milk, that, inasmuch as the milk is separated or derived from the blood, the more milk the organ secretes the less blood it will contain; or, in other words, that the circulation will be diminished in a direct ratio with the secretion of milk. This is a fundamental error, at variance with all we know of physiology. The more active the secretion of a gland the greater must be the demand for blood. One column of blood having yielded such of its elements as may be fitted for the secretion, it is immediately replaced by another containing new materials, and we have thus a succession of columns more or less rapidly supplied according to the demand of the gland. Increased secretion must necessarily imply increased activity in the circulation, or an increased afflux of blood. In pathology we look upon the return of secretion as one of the first indications of a subsidence of congestion or of inflammation, and not as the *cause* of its diminution.

From these premises it must be manifest that if we wish to lessen the determination of blood to the mamma, or to prevent it from causing inflammation, we should not only avoid what may increase it, but also use such measures as may tend to lessen it. Instead, therefore, of frequent applications of the child to the breast, he should, on the contrary, be suckled as seldom as possible. Instead of frictions and warm applications, we should make use of such gentle compression as will force out the blood from its distended vessels, and keep the organ as cool as possible by avoiding unnecessary clothing. Quinine should be given if there be any fever. In this way we may expect very generally to succeed in averting the threatened affection.

I have for many years entertained these views of the pathology and treatment of mammitis, and experience has only confirmed me of their correctness. I was, however, for a long time perplexed by the difficulty of making such compression as might be effectual, of easy application, and would offer no impediment to nursing the child. I at first used the roller and other mammary bandages recommended in the books, but found them all difficult, cumbersome, and ineffectual from the facility with which they became displaced. I then tried adhesive plaster spread upon thin sheepskin, and subsequently a coating of collodion. The adhesive plaster is with difficulty obtained of good quality, is troublesome to take off and readjust daily, as it should be, and is too warm in summer. The collodion is also rarely to be procured of good quality, and is apt to induce excoriations about the margins of the coating. I have consequently long since abandoned all these expedients, and devised a bandage which combines all the requisites. It consists simply of a bit of cotton or linen shirting, about ten inches wide and long enough to surround the thorax and to be secured in front by digitations similar to other "many-tailed" bandages. This is to be applied from the axilla down, pass around the chest and over the mamma, and be tied in front of the sterum. It effectually compresses both organs, and may be removed, loosened or tightened, according to the exigences of the case, and without any difficulty whatever. If only one breast is affected, the bandage may be so split as not to cover the whole of the other; but there is no harm done by compressing both. The child may be nursed through an aperture made in the bandage for the nipple. If the nipple or its surroundings be so implicated as to require compression also, the bandage may have to be removed whenever the child is nursed, if splitting will not answer the purpose.

As soon as the congestion becomes painful or threatening, the bandage should be applied with such moderate tightness as will relieve pain, and continued until the trouble has entirely subsided. If applied too tightly it may suspend the secretion of milk so effectually as to necessitate the assiduous application of the child, or a resort to the pump, in order to re-establish the supply of milk. This use of the bandage should not prevent the administration of quinine whenever fever occurs.

When suppuration takes place, the pus should be let out by the free use of the bistoury, and a linen tent renewed daily. There should also be an opening in the bandage opposite the incision for the escape of pus. The relief afforded by the bandage is so complete that the pus may sometimes increase and make its way to the surface without being detected. The physician should therefore be on the lookout for such an occurrence, especially in cases in which the application of the bandage has been too long delayed.

Abscesses may occur beneath the areola, between the skin and gland, within the glandular structure, and behind the gland. The last are the most formidable and difficult to control; yet they can always be mastered by the bandage. This bandage is adapted to every stage of mammary inflammation. If too late to prevent suppuration, it will lessen the size of the abscess, and, after an opening has been made for the escape of pus, it will bring together the walls of the abscess and speedily effect a cure. One of its greatest advantages is that it relieves the patient of all pain as soon as it is applied, by removing the distention to which the unsupported tissues are subjected by the congestion, the tumefaction, or the accummulation of pus. It also effectually prevents the multiplication of abscesses so frequently attending the ordinary methods of treatment, and which prolong the sufferings of the woman indefinitely.

CASE OF PERIOSTITIS WITH ENDOCARDITIS.

(Death in Forty Hours.)

Reported by TRUMAN H. COX, M. D., Oriskany Falls, Oneida Co., N. Y.

Was called April 15th, 1876, at 3.30 A. M. to see Preston Newell (farmer, age 20), in consequence of severe pain in left thigh. The history given by the parents of the present illness was, that he had been working in the woods on Thursday; that on Friday morning took off his underclothing and returned to the woods again. About noon complained of a pain in the inner and anterior part of left thigh. Came home; pain increased rapidly, and complained of chills (had prevously been quite healthy and active). On my arrival he presented the following symptoms: the skin hot; the tongue dry; bowels costive; pulse 120; temperature 104°; the mind very restless. There was great tenderness of the limb, which was considerably swollen. The least pressure or movement of limb produced severe pain. Prescribed calomel grs. xxiv, Dover powders, gr. xv, divided into three doses, to be given at intervals of three hours each, and to be followed with sulphate of magnesia, ʒvi, also applying diligently hot fomentations to the thigh.

Saw the patient again at 2 P. M. The skin was hot; tongue dry; mind wandering; tenderness of the limb with increase of both pain and swelling; pulse 150, and irregular; temperature 105; action of the heart strong and attended towards the sternum with a loud bellows sound. He was not unconscious, putting out his tongue at my request, and answered questions distinctly when put to him. He had the air a person obstinately determined to say as little as possible. Gave spts. nit. dulc., wine of colchicum and tinc. gelseminum in moderate doses, and at the same time applying constantly hot foments to the thigh.

Was summond again the next morning at 1.30. The patient had been delirious and restless during the night; extremities cold to both knees and elbows; no pulse at the wrist, but detected at the axilla, counting 50 to the minute; a distinct but feeble bellows sound was audible near the left mamma; the tongue dry; the lungs were much engorged, and respiration had become more difficult. The chest symptoms became more urgent. Gave carb. ammonia, also brandy, both per mouth and rectum; injections were not retained, and vomiting set in one half hour before death. Patient died at 3.45 A. M. There was *no* autopsy after death.

Selections.

THE PHYSIOLOGICAL ACTION OF ALCOHOL.

By T. LAUDER BRUNTON, M. D., F. R. S.

Is alcohol a food or a poison? Is it one of the greatest boons ever given to mankind, or one of the greatest curses wherewith they are afflicted? These are questious to which we will receive different answers, according to the circumstances under which they are asked. If we ask the man who has just watched by the bedside of his dearest relation during the crisis of a fever, and seen the parched tongue grow moister, the delirium lessen, the quivering pulse grow stronger and steadier under the influence of alcohol, he will probably tell us that if not a food of the same kind as bread and beef, it is, under certain circumstances, better than either, and a blessing whose greatness can hardly be over estimated. If, on the other hand, we address ourselves to the squalid wife of a drunken husband, who instead of employing his time in work, and properly spending his evenings, lies in a state of idleness and incapacity for one half the week, and spends the greater part of the wages he receives for the other half in brutalizing himself at a gin-palace, we shall probably hear that it is the greatest curse upon earth, a poison destroying soul and body; and that but for it she would be a happy woman, instead of a trembling slave, living in constant fear of blows or death; her husband would be a respected member of society instead of a brutal coward, and her home a paradise instead of a pandemonium.

If we inquire why people drink it at all, the answers we receive are no less contradictory. The negro sweltering under a tropical sun drinks it to cool himself; the London cabman, shivering at his stand on a wintry morning, drinks it to warm himself; the weary traveler drinks it to strengthen his flagging muscles, and help him onwards to his destination; the literary man drinks it to give subtlety to his intellect, or brilliancy to his wit; the overworked man of business drinks it to rouse him from his apathy, and give sharpness to his bargains; the gamester, quivering with excitement, drinks it to steady his trembling hand; and the man or woman broken down by misfortune, and weary of life, drinks it to drown care in temporary oblivion.

Irreconcilable as these answers to our questions may seem, we nevertheless know that they are all more or less true; and in studying the physiological action of alcohol, our endeavor must be to discover how it is that one drug can produce such opposite effects. This is undoubtedly a difficult task, and one which we can not at present hope to accomplish perfectly. All that we can do is to take the facts we find and arrange them to the best of our ability, trusting to future research for information on those points of which we are now ignorant. In doing this we must bear in mind that alcohol has a threefold action. 1st. Its local action on the skin or mucous membrane with which it comes in contact. 2nd. Its reflex action on other organs through the sensory nerves of the skin or mucous membranes. 3rd. Its action on the brain, spinal cord, and organs to which it is conveyed by the blood.

The action of alcohol is modified, too, by the degree of concentration in which it is employed, and by the admixture with it of other substances, such as ethers of various kinds, hops, vegetable acids, etc. Thus, if we moisten the skin with pure alcohol, in the form of eau de Cologne, or diluted with its own bulk of water, as brandy, and allow it to dry spontaneously, a decided sensation of cold will be produced; but if we employ it in a still more diluted form, as wine or beer, the cold will be much diminished, or become quite imperceptible. This cooling action is due simply to the volatility of alcohol, which during its evaporation abstracts heat from the skin and cools it down. If pure it evaporates quickly and produces much cold, but if mixed with much water the evaporation of the mixture is too slow to produce any marked result. Any other volatile substance would have a similar effect, although its other actions upon the body might be utterly different from those of alcohol.

And, indeed, we get a very different result from alcohol itself, if, instead of allowing it to evaporate spontaneously, we prevent evaporation altogether by covering the moistened skin with gutta percha tissue. Instead of coolness we get a burning feeling, most intense if we use pure alcohol, or eau de Cologne, less with wine, and imperceptible with beer. We have got rid of the action which alcohol owes to its volatility, and we have brought into play another which it owes to its chemical properties. So long as it could evaporate readily it acted almost entirely on the epidermis, but when evaporation is prevented it soaks through the epithelium and acts on the vascular tissues beneath. This is better seen if, instead of applying the alcohol to the skin, where the epidermis presents a considerable resistance to its passage, we put it into the mouth, where the thinner epithelium offers less obstruction. Almost immediately after its introduction we experience a burning sensation, which increases for a little while, and then gradually diminishes. If we keep it in the mouth long enough, we notice that the mucous membrane changes its character, and becomes whiter, more opaque, and somewhat corrugated. Although the burning feeling appears to be accompanied by an increased flow of blood to the part, and its disappearance by a diminished flow, yet it is not due to the warmth of blood, for water, at a temperature much above that of the blood, produces no such feeling in the mouth. Both the sensation of burning, and the visible alteration in the mucous membrane, are due to the action of the alcohol upon the tissues, and we shall better comprehend the nature of this if we compare it with that of other substances. A piece of hot metal, or a solution of corrosive sublimate, will also cause a burning feeling, and an alteration in the mucous membrane, but, instead of being transitory, it will be more or less permanent. Now there is one point in which they all agree, viz., they all coagulate albumen; and the whitened appearance of the mucous membrane of the mouth, after brandy has been long applied to it, is no doubt due to the precipitated albumen on the surface obscuring the red color which the circulating blood imparts to the tissues beneath. But there is this great difference between the action of alcohol and that of heat, or of corrosive sublimate. The latter produce permanent coagulation, while the coagulum formed by alcohol readily dissolver again in water, or in the liquids of the body.* Thus its action is more tronsient; and, if it is only allowed to act for a short time, its effect is counteracted by the blood which dissolves the albumen as fast as it is coagulated, so that we do not see any opacity of the mucous membrane of the mouth, unless alcohol has been acting on it for a good while. When frequently applied to the skin, and allowed to evaporate, it seems to act on the epithelium and harden it, and thus is frequently used to prevent the formation of bed-sores and cracked nipples.

Most substances which possess the power of coagulating atbumen, such as tannin, catechu kino, logwood, sulphate of copper, sulphate of zinc, etc, act as astringents when taken internall, and even corrossive sublimate, although not usually reckoned among their number, is strongly recommended in some forms of diarrhea by Prof. Sydney Ringer. Alcohol is no exception to the rule, and we all know that a person suffering from an attack of diarrhea usually flies to the brandy bottle for relief before he thinks of consulting a medical man. We know too little about the action of astringents to say positively that alcohol owes its efficacy in this respect to its power of coagulating albumen, but we certainly can say that this property appears to be the only one it possesses in common with catechu and kino.

The simple experiment of putting a little brandy in the mouth is instructive not only by showing us the local changes which alcohol produces in the mucous membrane, but by reminding us of the second kind of action which alcohol exerts, viz., reflexly through the nervous system. At the same time that the burning is felt, the saliva begins to flow copiously into the mouth. The alcohol has not come in contact with the salivary glands at all, but through the sensory nerves of the mouth it has acted on the nervous centres, and through them upon the vessels and secreting cells of the gland. If we swallow the brandy instead of ejecting it, the feeling of warmth which we experience along the course of the œsophagus and in the stomach itself, informs us that it acts on the mucous membrane of these organs in the same way as on that of the mouth. So far as I am aware, we are at present ignorant of the reflex actions which alcohol exerts through the mucous membrane of the œsophagus, but those which it produces through the stomach are of great importance. First of all come those which concern the secretions and movements of the stomach itself. When the stomach is empty its mucous membrane, as seen through a gastric fistula, is pale and only covered with a little mucus. If a little alcohol is now introduced the blood vessels of the mucous membrane dilate and it becomes of a rosy red color, its glands begin to secrete copiously, beads of gastric juice stand upon its surface, become larger and larger until they can no longer preserve their form, when they coalesce and run down together in a little stream.

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* The coagulation of albuminous fluids by alcohol seems due in the first instance to the simple abstraction of water, and when this is again added, they re-dissolve. If the alcohol acts for a long time upon them, however, their constitution seems to undergo a change, and they become insoluble in water.

Now every slight stimulation of the stomach seems to be felt as appetite, and thus we find that substances having the most diverse properties induce a desire for food. Alcohol does this in a marked degree, and a nip of brandy is very frequently taken as an appetizer. But appetite seems really to be only an expression of slight uneasiness on the part of the stomach. It can not distinguish sensations like the mouth, and alcohol which on the tongue causes burning, quassia which causes bitterness, and minute doses of arsenic or tartar emetic which would cause congestion if they stayed in the mouth as they do in the stomach, all cause appetite. Perhaps they do this only by exciting a certain amount of congestion in it, for food itself causes the vessels of the mucous membrane to dilate and its glands to secrete in the same way as we have described after the injection of alcohol, and we all know that a person who begins a meal with no appetite at all often eats with zest after the first bite, and finishes with astonishment at the amount he has consumed. But if the irritation is too strong the whole condition becomes changed. The mucous membrane loses its rosy hue and becomes pale, the secretion of gastric juice ceases while that of a slimy mucous is increased, appetite disappears and is replaced by nausea, and finally vomiting occurs. This change is often clearly seen in a so-called bilious attack, where the irritation of the stomach first manifests itself as an abnormal craving for food, which gives place as the irritation increases to nausea and vomiting.

Now the amount of irritation necessary to produce these totally different conditions of increased secretions with appetite and diminished secretion with nausea varies in different stomachs, and in the same stomach under different conditions. If the stomach is sensitive an irritation will cause nausea which would only produce appetite if it were less irritable, and *vice versa*, a sluggish stomach will be benefited by an amount of irritation which one normally sensitive could not bear. Thus we know that in some cases articles of food, such as lobster, which in normal stomachs frequently cause indigestion and nausea, are readily digested, while ordinary food is not digested. The stimulus which an ordinary diet gives to the stomach seems here to be insufficient to excite the secretion of gastric juice, while the more irritating substances do so and are digested instead of causing over-irritation and vomiting as in the normal condition. But if this explanation be correct, how is it that we take a glass of spirits with our lobster "to digest it?" Is not this adding fuel to fire and increasing the irritating effect of the lobster on the stomach by that of the alcohol? By no means—the fibres of lobster are probably in themselves no more irritating than fibres of beef, but only less soluble in gastric juice, so that they retain their form and hardness instead of being reduced to a pulp, and by thus exerting, for a longer time, a mechanical irritating action upon the stomach, they produce nausea and indigestion, not immediately after they have been swallowed, but in the course of some hours. If, however, an increased secretion of gastric juice be produced by means of a glass of spirits swallowed at the same time with the lobster we may expect that digestion will take place more rapidly, the fibres will be dissolved, and the prolapsed irritation of the stomach being avoided no nausea will ensue.

If insufficient stimulation of the stomach then does not induce a flow of gastric juice, and if excessive stimulation causes nausea, under what circumstances is alcohol likely to be useful? Healthy stomachs with ordinary food do not require it, although in small quantities it may do little harm, and as an adjunct to lobster may be positively beneficial. A large quantity, however, is certain to be injurious. Moreover, if regularly used, even in small quantities, the stomach may become habituated to it, and refuse to respond to the stimulus of food alone, unless supported by that of alcohol. The case is different when we have to deal with a stomach whose sensibility is below par, either permanently or temporarily. In patients convalescent from an acute illness, or weak delicate anæmic persons, the food does not sufficiently stimulate the weakened stomach, the secretion of gastric juice is small, and the meal lies for a long time like a weight at the epigastrium. The same is the case with the merchant, the lawyer, or the doctor, who comes home from his counting-house, his office, or his rounds, and sinks exhausted into his easy chair, weary and worn out by a long day's work. In such cases the diminished sensibility of the stomach must be compensated by an extra stimulus, and the glass of sherry which to a healthy person not exhausted by over fatigue would be superfluous, will in them restore the normal equilibrium and quicken the otherwise slow and imperfect digestion.

I do not mean to discuss the wisdom of these men's conduct in thus exhausting their energies, or the question how long such a course can be pursued without ending in an utter breakdown, for it is in many instances sheer necessity which drives them to it, and no remonstrance or warning is of any use. But I would say a word about the amount of stimulants to be employed and the probable effect of excess on the stomach itself. Not only does the sensibility of the mucous membrane become blunted so that it no longer secretes gastric juice in proper quantities when stimulated by food alone, but it secretes mucous in large quantities, and this not only impeded digestion, but facilitates fermentation, by which various injurious substances are formed. Among these may be mentioned butyric acid which causes an acrid burning sensation in the stomach itself, and may, according to Otto Weber and Senator, be absorbed into the blood, and there act as a nerve poison, still farther reducing the business capacities of the unfortunate patient, which may already have been sadly diminished by over-work and inability to assimilate proper nourishment.

REMARKS ON THE TRANSFUSION OF BLOOD.

By R. O. Cowling, M. D., Professor of Surgical Pathology and Operative Surgery in the University of Louisville.

Made before the Kentucky State Medical Association.

The paper read by Prof. Frank Wilson has given us a most admirable account of the interesting subject of transfusion. If I have any thing of importance to add to it, it is the narrative of my actual experience in this connection. It is certainly not a flattering one, and for reasons that you will see perhaps not a convincing one either for or against the performance of this operation, but it may assist some of you in making up your minds as to the real value of transfusion under certain conditions.

I have generally used Bellini's instrument, one which fulfills admirably its purposes. It is made up, as you have seen, of a glass receiver, a graduated bulb, and tube of india-rubber entering above, by which the blood is forced downward through the tube below, which joins with the canula, into which is fitted the trocar. The disposition of the trocar and canula is such that air can not well enter the veins.

My first experience with transfusion was in 1872. The patient was a lady residing in Bardstown, Ky. I was sent for to transfuse after a post-partum hemorrhage. I found, however, that the hemorrhage had taken place a year previously, and that the patient was the subject of anæmia or leucæmia, which had been supposed to result from the excessive loss of blood at the time of her last delivery. I was accompanied by Dr. Samuel Garvin and the late Dr. Wm. Humphreys, of Louisville. We were met at the railway station in Bardstown by a messenger, who informed us that the lady was dying, and upon our arrival at her residence we found such was evidently the case. Nevertheless, at the urgent solicitation of her husband and her friends, the operation was proceeded with. One of the gentlemen present offered the blood, but fainted before an ounce was drawn. It was then given by Dr. Humphreys. It was defibrinated by whipping with straws, and strained into the receiver. The patient was unconscious, breathing with difficulty, and the pulse barely perceptible at the wrist. She presented the unmistakable physiognomy of death. A vein at the bend of the elbow was laid bare, the trocar and canula were easily inserted, and about six ounces of blood were introduced. There was no perceptible change wrought by the operation either for better or worse. She died in about twenty minutes after the operation was done.

A second case occurred a few weeks later. A strongly-built Scotch gardener, just arrived in Louisville, had sporadic cholera, and was in collapse. I saw the case with Dr. L. P. Yandell, sr., Dr. David W. Yandell, and the late Dr. Lewis Rogers. With the approval of these gentlemen transfusion was done. The trocar and canula of the instrument were in such a condition that we could not use them, and an ordinary syringe was tried. Artificial serum was substituted for blood, though Dr. David W. Yandell freely offered enough of this from his arm. The operation was done without difficulty, and I do not believe that air got entrance. Four or five ounces of the fluid were carefully introduced. The patient, who was evidently moribund at the beginning of the operation—pulseless, cold, speechless, and, indeed comatose—went on speedily to his end, in ten minutes, perhaps, after we had finished. I remember well the remark of Dr. Rogers, that most sagacious of practitioners, "The operation probably hastened matters."

A third case occurred a few months later, and seemed to give promise of better results. In the lower suburb of Louisville, at Portland, a woman having suffered violently from post partum hemorrhage was at the end of a week attacked with a profuse diarrhea. On the eleventh day she was evidently fast sinking. Dr. George Walling and Dr. Willoughby Walling, in whose practice the case occurred, invited me to tranfuse her. The husband gave the blood, which when defibrinated filled the receiver. The patient was pulseless at the wrist, cold to the elbow, and wholly unconscious. The canula was introduced into the cephalic vein. Dr. George Walling held the wrist to note the return of the pulse should this occur. After the injection of three ounces the pulse did return; with four ounces it was distinct, and could be counted—eighty to the minute. She endeavored to rise, and said, "you hurt me." There were about two ounces left in the receiver, which I continued to inject. About five ounces had been introduced, when she gave a convulsive movement, and suddenly died.

A fourth case occurred on Christmas day, 1873. A gentleman of Louisville had been ill at his country seat, near the city, with an obscure affection. He was under the charge of Drs. Foree, Bell, and the late Dr. Bayless, my preceptor. The diagnosis became pretty plain after a while that it was purpura. The spots upon his body when I saw him were many and large. I agreed to his transfusion with the approval, and, indeed, at the suggestion of his medical attendants. All measures had failed, and he was rapidly sinking. The day was bitterly cold. In spite of the great fire in the room, the blood, which was given by his brother, clotted so firmly and quickly, upon its withdrawal that it was with the greatest difficulty we could defibrinate enough to answer our purpose. The condition of the patient was not a whit better than that of those upon whom I had operated before. He was plainly in the very act of dying. For the first time I experienced difficulty in entering a vein (the cephalic), and, indeed, injected half an ounce or so into the cellular tissue before I finally got the nozzle fairly into the vessel. About four ounces were introduced. There was not a sign of reviving life, and death occurred within ten minutes after the canula was withdrawn.

Such is the experience I have had in transfusion. Perhaps it proves nothing save that the operation in each case was postponed too late. It is enough, however, to deter me greatly from resorting to the operation again, except it be in its legitimate field—the restoration of blood actually lost from the vessels. I bear in mind the number of instances in which transfusion has been successfully used for the relief of blood diseases. Failure, however, has been the rule,—even in the hands of the best operators—and under conditions far more favorable than in the cases I have reported.

There is a great fascination about the subject of transfusion. It is such a direct method of fighting the great enemy—it has so often brought persons back seemingly from the very jaws of death, that it is no wonder an ardent desire should exist to extend its application to the utmost. I can not but think that its triumphs have sometimes been over-estimated, and that the old *post hoc ergo propter hoc* has not been properly considered in weighing the results of this operation—even when performed after hemorrhages.

It is a common experience that men often survive the most frightful loss of blood. Death from this cause may occur from an inability to secure the vessels in time, when tranfusion would not be practicable. Of course, in the vast majority of instances the dangers from hemmorhage are not so immediate. The flow of blood has been stopped, and the patient sinks from shock, exhaustion, etc. In these cases transfusion is practicable, and has acheived seemingly wonderful results; and, on the other hand, wonderful recoveries have occurred without it. It is after post-partum hemorrhage perhaps that the rallying powers of nature have been most strikingly exhibited. Such cases, too, have formed the favorite field for transfusion. In a case of violent flooding, where the accoucheur—a gentleman of the most extensive experience—regarded that the life of his patient was gone unless she was saved by transfusion, and being unprepared to perform the operation, had decided, as he told me, to send for me to do so. The distance between us was so great and the hour so unseasonable that he despaired of getting the assistance be desired in time to do any good. He addressed himself to the ordinary measures used for the exhaustion following post-partum hemorrhage, and his patient recovered. This incident made quite an impression upon my mind.

The operation for transfusion I have generally found quite a simple one, though the vein is not so easily found, especially in fat subjects, as for an ordinary phlebotomy, from the fact that when we generally resort to it, the circulation having been mainly stopped, we can not make the vein swell out by the fillet, but must trust to dissection to find it.

The dangers attending the operation are the introduction of air into the circulation, the clotting of blood in the veins, and *over-stimulation of the heart.* The first two dangers are well provided against by the construction of the instruments and by using defibrinated blood. I believe that we have most to fear from over-stimulation of the heart. In fact, it must be as a direct stimulant to the heart that transfusion has most of its value as a therapeutic agent. While in a certain number of the cases recorded where it has been successfully used, enough blood has been put into the vessels to restore in a great measure the volume of the circulation, in a large number of instances the amount injected has been out of a l proportion small in comparison with the quantity which was lost. In the third case I have narrated the pulse appeared after the injection of three ounces of blood, and with the fifth the heart suddenly ceased to beat. The point is certainly one of the utmost importance. The temptation will always be great to restore as much as possible the quantity of the blood which has been lost, and beneficial results may be lost.

So far as I have been able to discover, tranfusion has been performed seven times by physicians of Louisville: once in cholera by Dr. Ben. Raphael, now a resident of New York, assisted by Dr. Hewitt; twice by Dr. Wilson, with lamb's blood; and four times by myself. There have been seven deaths, all occurring within twenty-four hours after the operation.

In conclusion I do not wish to be considered in presenting this dark side of transfusion not to believe in its efficacy under certain circumstances. There was a time when I had the utmost enthusiasm for transfusion. In fact, in 1872, in a debate at the College of Physicians and Surgeons in Louisville, published afterward in the *American Practitioner*, I took sides even more strongly than has been done here in regard to the safety and efficacy of this operation. Experience has since sadly dampened my ardor. But it would be a greater mistake to decry the operation. Its value in certain conditions is demonstrated. Let us be careful how we fix upon it a bad name by attempting to achieve with it impossibilities.—*Louisville Med. News.*

DIPHTHERIA.

At the New York Academy of Medicine, on the evening of March 16, Dr. C. E. Billington read a paper on this disease and its treatment, which was especially valuable as it was based entirely upon clinical and personal experience; his observations having been made with great care and extending over a large number of cases. The Records of the Bureau of Vital Statistics showed, said he, that in 1873 there were over four hundred deaths from diphtheria in this city, in 1874 over one thousand, and in 1875 no less than two thousand three hundred and twenty-nine. This terrible epidemic he thought could not be checked by any therapeutic methods, but could only be stamped out by the most revolutionary and active sanitary reform. Dr. Billington has enjoyed unusual facilities for the study of the disease, as he is one of the district physicians of the Demilt Dispensary, and has seen altogether about three hundred cases; of which he has careful records of about one-half.

As a result of his observation and study, he has become fully convinced that diphtheria is a local disease, at least primarily; and, though this is the opinion of a minority of the authorities on the subject, he is glad to have his views corroborated by such observers as Drs. Jacobi and J. Lewis Smith. This conclusion is based upon the following points:

First. The local affection commences first.

Second. The gravity of the general symptoms is in proportion to the severity of the local manifestations.

Third. The results of treatment seem to substantiate this view.

In the study of the nature of the disease, he said, three elements were to be considered:

(1) The *contagium*, which he did not propose to discuss on this occasion.

(2) The inflammation, denuding the fauces of epithelium, and resulting in membranous exudation; and

(3) The effects reflected from the inflammation upon the system in general, are, to a greater or less extent, septicæmic in character.

Dr. Billington's treatment consists mainly in local disinfection, together with the most careful and unremitting watching and attention. The agents which he regards as most useful are the following, in the order in which they stand in his estimation: tincture of the chloride of iron, lime water, and glycerine; and after them, salicylic and carbolic acids, sulphite of sodium, chlorate of potassium, etc. One formula which he uses in almost every case is as follows:

℞ Tinct. ferri chlor., fʒiss;
Glycerinæ.
Aquæ, aa f℥j.—M.
S. Teaspoonful every hour or half-hour.

Besides being very effective, it has the merit of being pleasant to the taste, which is a great desideratum for children, especially when the dose has to be so frequently repeated. If the child is under two years, one drachm of the tincture of the chloride of iron is enough, and if vomiting follows the administration of the medicine, it should not be given so often.

In connection with the above, Dr. Billington formerly employed the following:

℞ Potass. chlor., ʒiss;
Glycerinæ, f℥ss;
Liq. calcis, f℥iiss.—M.

A teaspoonful of this was alternated with a dose of the former; so that the patient would receive one or the other every half-hour. As a substitute for the chlorate of potassium mixture, he now generally uses the following:

℞ Acid. salicylic., gr. x—xv.
Sodii sulphit., gr. xxx—xlv;
Glycerinæ, f℥ss;
Aquæ, f℥iiss.—M

Here the salicylic acid is rendered soluble by the addition of three times its weight of sulphite of sodium (borax also has the same effect), so that in this prescription we have the advantages of both these reputed antiseptics, which are indicated theoretically, and really seem to be of considerable practical benefit. It is of great importance that in every case in which it is practicable some sort of spray should be used upon the throat; and the most convenient instrument with which to accomplish this is the ordinary little perfumery spray apparatus now in such general use. In order to annoy the child as little as possible, it is best to employ the spray immediately after a dose of the medicine is administered. The combination generally used by Dr. Billington is the following:

℞ Acid. carbolic., m x.
Liq. calcis, f ℥iv.—M.

He believes that the nasal douche or syringe has saved many lives: and even when the nasal passages, apparently, do not seem affected, it is often useful in reaching portions of the mucous membrane inaccessible to the spray. If, therefore, the breath should remain fetid after the employment of the latter, it ought to be resorted to; and the mixture mentioned above, containing the salicylic acid, is as good as any other for the purpose.

In adults or large children it may occasionally be of service to apply carefully strong tincture of iron (say two parts of the tincture to one of glycerin) to circumscribed patches of membrane; but, as a rule, topical applications of caustics or astringents by the probang or camel's-hair brush do much more harm than good, as they cause exhaustion of the little patients from their struggles to resist, excite an increased flow of blood to the part, and really occasion further thickening and spread of the membrane.

Dr. Billington expressed the opinion (which is hardly substantiated by other observers) that quinine is worse than useless in diphtheria in children; being objectionable, if for no other reason, on account of its bitter taste, which makes every dose dreaded by the patient.

In cases attended with high secondary fever, a full dose of quinine, he thinks, may occasionally do good, but five grains of calomel has worked better in his hands. He cannot subscribe to the prevalent opinion that diphtheria will never bear antiphlogistic treatment.

Dr. Billington then proceeded to give an interesting summary of the cases which he had personally observed, prefacing his statement with an allusion to the well-recognized disadvantages to be encountered in dispensary practice. According to his observations, about sixty-five per cent. of all cases of diphtheria occur in persons under five years of age, and it is quite a rare affection among adults (except in the peculiar experience of certain irregular practitioners,) even when individuals are constantly and to the fullest extent exposed to the disease. He has also found that about sixty per cent. of all the cases will recover without any treatment at all, and that about five per cent. will prove fatal whatever plan may be adopted. Out of one hundred and two carefully tabulated dispensary cases treated by him, fourteen died, and eighty-eight recovered; while of seventeen cases in private practice, one died, and sixteen recovered.

The usual duration of the attack, from the commencement of the treatment to the disappearance of the diphtheritic membranes, was only from four to six days. Twenty-four cases in private practice, treated on the same principles by Dr. Wm. Darken, house physician to the Demilt Dispensary, show even a better result; as not a single death occurred directly from the disease, though one of the children died several weeks after the acute attack from some unexplained cause.

A still later series of fourteen cases treated by Dr. Billington in conjunction with Dr. W. E. Bullard (in order that the patients might receive the fullest possible amount of attention) all recovered, so that we have fifty-five cases altogether, with only one death directly attributable to the disease. In a large number of these the attack was of very great severity.

From his observations, Dr. Billington has been induced to believe that a laryngeal or tracheal complication can often be prevented or aborted by the use of the spray, and that even after the membranes have been fully formed in this locality it is of very great service. Calomel has also proved useful in many cases. The inhalation of *hot* vapor, he thinks, renders the surfaces more favorable to the absorption of septic materials, and therefore injurious.

He did not express a positive opinion as to the identity or non-identity of croup and diphtheria, but apparently seemed to hold to the former view. —*New York Letter—Phila. Med. Times.*

THE HOT-WATER DOUCHE AS A NERVOUS SEDATIVE.

By Virgil P. Gibney, A. M., M. D., Assistant Surgeon to the Hospital for the Ruptured and Crippled, New York.

My attention was especially directed to this subject in the spring of 1875, while reading a lecture on Sciatica by Professor W. H. Thompson, published in the Series of American Clinical Lectures, No. 5, being the lecture to which I allude, and since that time I have made use of this simple measure with gratifying success in a number of instances. The professor reports two or three remarkable cases; and while in no single case was the douche alone employed, he theorized so beautifully on the particular effects gained by the three or four other well-known remedies used in combination, that I felt assured as to the great advantage we might expect from warm water thus applied, and determined to give it a fair trial uncombined.

Fortunately for my purposes—and very fortunately, as it proved, for my patient, I had on hand at the time a case of ulnar neuritis, which had well-nigh exhausted all my resources in therapeutics. I satisfied myself as to the possibility of having directions carried out to the letter, and began rather hopefully on this my *dernier ressort.* That the result may speak for itself, I give herewith a report of the case in full.

S. K., German, aged fifty-one years, came under observation at the out-door department of the Hospital for the Ruptured and Crippled, May 15, 1871. The left arm was borne in a sling, and on examination there was found total loss of voluntary power in the extensors of the wrist, with the power in the flexors markedly diminished. The flexors, moreover, were in a state of tonic spasm, rendering the hand useless Faradic responses.

were perceptible only to a strong current, the extensor of the thumb acting scarcely at all. He gave a history of a fall on the ice the 6th of February preceding, the palm of the hand coming in violent contact with the pavement. The pain was so great that a " fainting spell " was the immediate result. The attending surgeon, from all I could learn, regarded it as a Colles' fracture, and treated it accordingly. While I could detect no satisfactory signs of an old fracture, I was forced to regard it at least as peripheral paralysis, tracing the cause to the injury sustained at the time of the fall.

Electricity, of course, constituted the main element in the treatment; and patiently and faithfully we worked, the patient and I, for months in succession, until gloomy doubts as to the wonderfully restorative powers of this vaunted agent began to arise in our minds, and we sought consultation. I sent him to the New York State Hospital for Nervous Diseases, now a defunct institution, and he was returned with the advice to continue the electricity. From that time until January, 1875, both currents were used alternately, with a period of rest intervening; during which intervals the following means were resorted to, with the same unsatisfactory results: Fowler's solution gradually increased to twenty-drop doses three times a day, the nausea and vomiting consequent thereon making a discontinuance necessary; valerian, in combination with bitter tonics, in the form of decoctions; quinine, on the possibility of malarial poisoning complicating; massage, with all its modifications; blistering along cervico-dorsal spine, etc. I neglected to mention the fact that a neuralgia, more or less severe, had been present all the while; still no excruciating pain at any time existed.

In the early part of 1875 severe paroxysms of pain along the distribution of the ulnar nerve became a prominent feature. Cold water, both in the form of a douche and in the form of cloths saturated therewith, was used with only temporary relief, failing subsequently to give any ease whatever. Fowler's solution I again summoned to my aid, and this rendered no assistance. Then recourse was had to ice, which he held on arm and in hand for hours together, with a return of the pain and burning sensation as soon as this was removed. On the least attempt at voluntary motion the arm would tremble perceptibly, at times violently. My friend, Dr. E. G. Janeway, saw the case in consultation, and, agreeing with me as to the existence of ulnar neuritis supervening upon the neuralgia, advised hypodermic injections of morphia, which I administered *ad nauseam*. This failing, I gave atropia hypodermically, and later the two in combination. I had already given opiates per orem until the stomach vigorously rebelled. The paroxysms increased in frequency and duration. From March to May the case was desperate. I blistered the ulnar side of the arm two or three times, and, this proving ineffectual, I sought earnestly the patient's permission to exsect a portion of the nerve.

Finally, on May 20th, I directed the wife to pour from a pitcher, a distance of three or four feet elevation, water as hot as could be borne over the shoulder, allowing the stream to run down the arm. This was to be repeated six or eight times throughout the day. At the end of a week he returned greatly relieved and enthusiastic on the subject of hot water. The treatment was continued a few weeks longer, and on the 6th of July, 1875, I discharged him cured. No pain whatever existed, and, most remarkable, the spasm was entirely relieved; the normal power had returned to both extensors and flexors; in fact, the cure seemed complete. I had him call October 18th, and there had been no relapse. April 19, 1876, I saw him again, and a careful examination of the arm failed to detect any disease or any signs of pre-existing disease. He has not had a twinge of pain for eight months.

Remarks.—The various neuropathies have received much attention in this country of late. I have been pleased with the contributions of Dr. S. Weir Mitchell, and in the last issue of the Philadelphia *Medical Times* I see a report of some cases of trifacial neuralgia successfully treated by the fluid extract of gelseminum, the remedy now attracting attention in England and on the continent. Dr. Wharton Sinkler, the reporter, refers to partial success in chorea with the same drug. The treatment of nervous disease by absolute rest and massage, which has in Dr. Mitchell so earnest an advocate, is meeting with a certain degree of popularity. The case I have reported was not treated by either rest or the gelseminum, yet the hot douche afforded relief in as short a space of time as is claimed for these remedies in cases yet reported. In some obstinate cases of sciatica—not, so far as I could determine, symptomatic merely—I have employed the douche with decided benefit, yet in no single instance have I obtained such permanent relief as I did in the case of ulnar neuritis. Professor Thompson claims that prolonged contact with warm water so devitalizes the nerves that they can be roused into action only by strong irritants. This he calls a pure nervous sedative. I might quote numerous examples from his excellent lecture, but I should prefer that the readers of this short article would read the original.—*Louisville Medical News.*

STRANGULATIONS OF A LOOP OF THE ILEUM BY A BAND OF THE MESENTERY—DEATH BY INANITION.

By Judson Bradley, M. D., Detroit, Mich.

I called, on the evening of the 7th of October, to see M—— S——, a girl six years of age, who was taken ill, as the father stated, soon after dinner that day. She had previously enjoyed good health. Since dinner she had cried a good deal from pain, and had vomited constantly.

Reaching the house, I found the little patient suffering from what appeared to be flatulent colic, and which I attempted to relieve by opiates and warm fomentations. I should have ordered an enema, but, on inquiry, the means were not at hand to administer it. When the child seemed easier I left directions for the night, hoping and expecting to find the patient better in the morning.

Early on the morning of the 8th of October I was informed by the father of the child that she was no better; vomiting almost constant; pain was at times severe, and thirst always urgent. Taking a syringe with me I went to the house, and found the patient substantially as stated above. The pulse was frequent and small; temperature ninety-eight and one half degrees; the abdomen soft; no dullness on percussion; no tumor recognized by palpation; in fact, nothing recognizable to account for the obstinate vomiting and severe twinges of pain.

I ordered an enema to clear the lower bowel, but nothing came away except a few lumps of hard fæcal matter. It may be stated here that the child struggled against the medicines, but what little was taken was almost instantly rejected. In the evening I found no change for the better, and ordered enema. This brought away a considerable quantity of fæcal matter, but did not alleviate the urgent symptoms.

On the 9th the situation was much the same. I had hoped against hope that what was now certainly to be considered an obstruction of the intestinal tract might prove to be impaction of fæces. I ordered another enema, but nothing came away save a little intestinal mucus. Carefully re-examining the patient, I could come to no other conclusion than that I had a case of intussusception, or knot of the bowel. I accordingly told my fears to the parents, who asked for a council, to which I agreed. The council agreed in the diagnosis, suggested a belladonna plaster over the region of the cœcum, and increased the quantity of morphia to be given. From this time the patient suffered less, but the main objective symptoms remained the same. Notwithstanding the persistent vomiting, the matters ejected were not stercoraceous at any time during the child's illness.

The patient lingered in this condition about ten days. The temperature was never above ninety-nine degrees, but the pulse grew more frequent as the emaciation increased, until death ended the suspense and watchings of the parents, and put a period to the sufferings of the patient.

Post-mortem section thirty hours after death.—Rigor mortis well marked; emaciation very complete; the adipose tissue almost entirely absorbed; opening into the abdomen, the omentum was seen devoid of fatty tissue; the largely dilated coils of the ileum were especially noticeable, while the colon was contracted and empty. Searching among the coils of the ileum I soon brought to light a knot of ileum that was bound by a band of what, on closer inspection, proved to be a portion of the mesentery, holding in a peculiar manner about two feet of ileum so closely that nothing could pass, while another portion was bound not so closely but that peristaltic action could go on. The mesenteric glands were found enlarged to a considerable extent, but no other abnormal conditions were noticed. The knot was located about one foot from the cœcum, and lay close to the spinal column on rhe right side.

Theory and conjecture fail to account for such a peculiar obstruction, and when the question is asked, "How did that happen?" all the reply that can be made is, "I can't tell."

INFLUENCE OF MATERNAL IMPRESSIONS UPON OFFSPRING.

Read before Detroit Academy of Medicine by Dr. F. L. TIFFANY.

That the mind exerts an influence over the organs of the body, not under the control of the will, is an established fact. "Certain emotions," says Hammond (and here I will say he is authority for many of the ideas expressed in this paper), "increases the action of the heart; others give rise to the blush of shame or modesty; another emotion impedes the movements of respiration; an effort to control the manifestation of feeling, or to prevent the expression of grief, causes a painful spasmodic action of the throat."

The secretions are influenced by particular conditions of the mind in a not less marked manner. The lachrymal secretion, which is formed to a limited extent for the purpose of bathing the surface of the eye, is poured out in great abundance under the excitement of the emotions. It is checked in powerful emotions; in intense grief the tears do not flow. The flow of saliva is stimulated by the sight, smell or even thought of food. And probably the same is true of the secretion of the gastric fluid. It has been ascertained by experiment that it is copiously effused into the stomachs of dogs that have been kept fasting when flesh is placed before them. That the appetite for food is dissipated by powerful mental emotion is probably due to the suspension of these secretions. The muscular walls of the alimentary canal are excited to increased action by agitating emotions, resulting sometimes in diarrhea. Under the influence of any disturbing emotion there is a tendency to micturition. That the secretion of the skin is increased by fear or bashfulness some of us have experienced. The mammary secretion is affected in a marked manner by the emotions. "In the nursing female," says Carpenter, 'the secretion is often suddenly augmented by the sight of the infant, or even by the thought of him in absence, especially when associated with the idea of suckling." Sir A. Cooper, as quoted by the same author, states, "a fretful temper lessens the quantity of the milk, makes it thin and serous, and causes it to disturb the child's bowels, producing intestinal fever and much griping. Fits of anger produce a very irritating milk, followed by griping in the infant, with green stools. Grief has a great influence on lactation, and consequently upon the child. Anxiety of mind diminishes the quantity and alters the quality of the milk. Fear has a powerful influence on the secretions. Terror, which is sudden and great fear, instantly stops the secretion." To explain how the mind acts in producing the effect in any of these cases would be difficult; that they are facts must be admitted.

Not a few diseases have their origin in the mind. Hypochondriasis, with its chain of morbid manifestations, is produced mainly through the imagination; remove from the hypochondriac the impression that he is sick and you cure your patient. Hysteria can largely be controlled by moral influences. When younger and of stronger faith, we have watched for the disappearance of warts after the rubbing on of a split bean, and our expectations have not been disappointed. Who can doubt that magnetic quacks and infinitesimal pellets occasionally effect cures of disease of long standing, or that bread pills will produce purgation, when the patient is sufficiently confident of such a result. The results of all these cases seem to be in proportion to the faith of the sufferer in the means employed. Paralysis of long standing, it is said, has suddenly disappeared when a necessity has required the invalid to use the affected member.

"There is abundant evidence," says Carpenter, "that a sudden violent excitement of some depressing emotion, especially terror, may produce a severe and even fatal disturbance of the organic functions, with general symptoms so generally resembling sedative poisoning as to make it highly probable that the blood is directly affected by the emotional state through nervous agency; and, in fact, the emotional alteration of various secretions seems much more probably attributable to some such affection of the blood than to a primary disturbance of the secreting process itself."

While the influence of the habitual state of the mind upon the general nutritive process, as manifested by the well nourished appearance of those who are free from care and anxiety, contrasted with the haggard look of those who are a prey to continual disquietude, is familiar to every one; the change in the nutrition of a specific part by strong emotional excitement is not so often observed. The following case is in point, quoted from Mr. Carter: "A lady who was watching her little child at play, saw a heavy window sash fall upon its hand, cutting off three of its fingers; and she was so overcome by fright and distress, as to be unable to render assistance. A surgeon was speedily obtained, who, having dressed the wounds, turned himself to the mother, whom he found seated, mourning and complaining of pain in her hand. On examination, three fingers, corresponding to those injured in the child, were found swollen and inflamed, although they had ailed nothing prior to the accident. In four and twenty hours, incision were made into them and pus was evacuated, sloughs were afterwards discharged, and the wounds ultimately healed." A larger collection of facts are needed to establish the relation indicated, but taken in connection with the change in the secretions by similar influence, it is rendered more creditable.

The influence exerted by the mind of the mother over her unborn offspring, though the connection between cause and effect is no more mysterious, has not been so generally believed as many of the examples cited.

From the earliest period of the historic record, it has been a popular belief that impressions made upon the mind of the mother, were, in some way, propagated to the fœtus. In the 30th chapter of Genesis, we find Jacob understood and acted upon this principle, much to his advantage. Nor has the opinion been confined to a popular belief. Scientific advocates in abundance there have been, who have furnished examples which to our mind, are better explained in the way claimed than in any other. The popular opinion, that all markings are caused by impressions conveyed through the mind of the mother, is founded in error. The slight or transient impression, none who have considered the matter, would claim adequate to produce changes in the fœtus. It is only the powerful and lasting influence on the mind, that is influential in bringing about those abnormal conditions, not infrequently seen in the new born child. There is no anatomical or physiological reason why the fœtus should not be acted upon by the mind of the mother. An extremely thin membrane separates the blood which circulates through its body and the blood of the mother, and it is thus impressed with the bodily and mutual characteristics which have their origin in her brain and nervous system. "The germ comes from her ovary, with a tendency to take on her bodily and intellectual characteristics." If she be malformed, or have marked mental tendencies, the being which results from it will probably be similarly affected. After the ovum has been fertilized the blood is the only connecting link between it and the mother, and it is through this medium that all impressions must pass from mother to offspring. It is well known that the female may imbibe blood from the fœtus, by which she transmits attributes to a subsequent offspring of a different male parentage; hence, children of a second husband often have characteristics resembling the first. Illustrations of this principle are very numerous in the lower order of animals. It is said the wife, in time, even comes to resemble her husband in mental and physical characteristics through this influence. Secondary syphilis is occasionally transmitted to a female who has never had primary symptoms, while the father shows no recent syphilitic disorder. The father communicates the disease to the fœtus, and from the blood circulating through its body her system becomes inoculated with it.

A striking example, illustrating the effect of mental excitement upon the embryo, occurred after the siege of Landau, 1793. "In addition to a violent connonading," says Carpenter, "which kept the women for sometime in a constant state of alarm, the arsenal blew up with a terrific explosion which few could bear with unshaken nerves. Out of ninety-two children born in that district, within a few months afterwards, Baron Percy states that sixteen died at the instant of birth; thirty-three languished from eight to ten months, and then died; eight became idiotic and died before the age of five years; and two came into the world with numerous fractures of the bones of the limbs, probably caused by irregular contractions. Here, then, is a total of fifty-nine out of ninety-two, or within a trifle of two out of three, actually killed through the mother's alarm, and the natural consequence upon her own organization; and experiment (for such it is to the physiologist) upon too large a scale for its results to be set down as mere coincidences."

If it be admitted that a powerful emotion exerts such an influence upon the heart as almost to arrest its motion, and cause fainting; upon the alimentary canal as to cause diarrhea; that the milk of the mother be so changed in quality as to cause convulsions, and even death of the infant; can we doubt that deformities of the embryo may result from a similar cause? How these changes are produced our knowledge is too limited to explain. The suggestion of Carpenter, in reference to various secretions changed in quality or quantity by mental conditions, seems to offer as plausible an explanation as any, viz: that the blood is primarily affected. We can only accept the facts, if facts they are, and leave the explanation to posterity to clear up.

THE DISCUSSION IN LONDON ON SYPHILIS.

The protracted but not uninteresting debate on syphilis before the Pathological Society of London was brought to a close on the evening of the 4th of February. The debate was opened February 1st by Mr. Jonathan Hutchinson, who began with the assumption that the phenomena of syphilis, notwithstanding their great variety of detail of character, are due to one virus He considered dualism to be dead, and the soft chancre to be due to contagion with inflammatory products produced by syphilis, but not, as a rule, containing its germs. He assumed, also, that in syphilis we have to deal with a specific fever of prolonged but definite stages, which is produced by contagion only which has a period of incubation, of outbreak, of efflorescence or exanthem, and which, in exceptional cases, is followed by sequelæ—the so-called tertiary symptoms. Between these last and the symptoms of the earlier stage there is a most important distinction, in that they are never general, and only by accident symmetrical. They do not constitute another stage of a blood disease, but by their constant non-symmetry appear to prove that the blood is not concerned. It appears highly probable that there is a period at which syphilis ceases to be a blood disease, though the correct determination of this period is a matter of difficulty. The products of syphilitic inflammations are peculiar. The tendency to cell-growth is most remarkable. An avoidance of proclivity to suppuration, a tendency to cause death of the tissues affected and thus produce phagedænic ulceration or even sloughing, and a proneness to undergo rapid and complete absorption, especially when attacked by certain metals or their salts, are features which characterize the new growths due to syphilis. So marked is the liability to phagedæna in syphilis that, as a rule, we may count this disease as directly or indirectly the parent of all phagedæna. Regarding the relationship between the several stages of syphilis, Mr. Hutchinson remarked that while their similarities are marked, so are their differences. There is a tendency to general and symmetrical development in the secondary stage, and to local, restricted, and unsymmetrical formations in that of sequelæ. In the secondary stage the blood and all the tissues are involved, while in the latter ones only certain regions, or it may be only single spots are affected. There is a spontaneous tendency to resolution of the new growths and to absorption in the secondary stage, but it is exceptional in all tertiary products. In contrasting the course of inherited syphilis with that of the acquired disease, among the points worthy of remark, are the severity of the secondary stage, often fatal; and, on the other hand, the frequent omission of all early symptoms, the remarkably long periods of latency which ensue after the cessation of the infantile symptoms, and the great rarity of most of the conditions which, in the acquired form, are ranked as tertiary. In conclusion, Mr. Hutchinson argued against the assertion that syphilis aids in producing scrofula and lupus.

In the discussion that followed, both Mr. Lee and Dr. Drysdale expressed their belief in the distinctive character of the poisons which give rise to the soft and hard chancre. Sir James Paget agreed with Mr. Hutchinson that in syphilis we have one malady and one virus, and also as to its being in nature a specific fever. He would further carry out the analogy by comparing the tertiary symptoms of syphilis to the sequelæ of other fevers. In the absence of symmetry in the sequelæ syphilis shows a remarkable resemblance to other acute fevers. As long as any manifestations of the disease occur, it is a blood disease. He agreed with Mr. Hutchinson that syphilis no more predisposes to scrofula than any other fever does.

Dr. Wilks placed no meaning upon the terms primary, secondary, and tertiary. A man either has syphilis or he has it not. He believed that all the visceral changes are due to the peculiar morbid processes of the disease. Mr. Berkeley Hill thought there was considerable proof that syphilis continued to be a blood disease from first to last. Those who suffer from the internal forms of syphilis are those who show fewest if any secondary external manifestations. Mr. Moxon, in commenting on Mr. Hutchinson's remark as to the symmetry of the secondary and the non-symmetry of the tertiary phenomena of syphilis, said that although secondary syphilis is symmetrical, yet it has no meaning, as it is invalidated by the "fallacy of universality."

Mr. Thomas Smith believed that syphilis was a disease almost to the end. The parent might transmit the disease to the end. A man without constitutional syphilis, that is, a blood disease in the ordinary sense, could not transmit the disease to his offspring. The objection might be raised that there were other diseases, as gout, which might be transmitted from a father to his son without ever having affected the former, but syphilis was active and speedily so. Did ever a woman become gouty by bearing a gouty child?

Sir William Gull regarded syphilis not only as a blood disease, but as a flesh and blood disease It exists in every tissue and fluid of the body. It continues to be a constitutional affection through the whole life of the man who has had it. "Syphilis once, syphilis ever; syphilis general, syphilis universal, in the man all the time he lives." It remains to a greater or less extent. He thought there was a distinctive odor to the disease. Mr. Simon thought Mr. Hutchinson demanded too absolute an answer to his questions. Instead of "yes or no," the answer ought to be "more or less." Mr. John Wood agreed with the two previous speakers that no definite line of distinction could be drawn between the stages of syphilis. He called attention to the fact that possibly nations among whom the disease had widely extended were becoming syphilized, and less susceptible to its influence.

To the criticisms on his opening address, Mr. Hutchinson presented an elaborate reply. To his mind's eye the cryptogamic germ poison of syphilis is as certainly present as if he had seen it under the microscope, and he thinks we might, without impropriety, speak of it as the syphilitic yeast. He still considers it consistent with the fact to divide syphilis into stages, the degree in which the blood and tissues are relatively affected by it differing very much at the different periods. Availing ourselves of such facts as accident throws in our way, we can produce but little evidence of prolonged contagiousness of the blood. All the accidents occur during the year or eighteen months which we count as the secondary stage, and most of them in the early part of it. There is every reason to believe that in the tertiary stage neither the blood nor even inflammatory secretions produced by sores which still bear the specific type can reproduce the disease. The cases in which syphilis is transmissible by inheritance for more than a year or two after its secondary stage, appear to be very exceptional. Unless the risk of hereditary transmission did really cease early in the vast majority of cases, infantile syphilis would be far more common than it is. When consulted regarding marriage, Mr. Hutchinson has made it a rule to insist that before marriage a period of two years should elapse from the last of what he considers blood symptoms. He has given this opinion often with anxiety, lest some day one should bring to him a snuffling, spot-covered baby, and say, " See here, you said I might marry ; just look at this !" Such an occurrence has, however, never yet happened to him. After the further consideration of the points which had been alluded to by the different speakers, Mr. Hutchinson closed with the expression of the hope that if the debate had not been a harvest, it had at any rate been a seed-time, and that syphilis, long ago named by one of the great masters " the key to all pathology," may in the future be found yet more useful.

TREATMENT OF MALIGNANT PUSTULE BY CARBOLIC ACID.

Dr. Estradere has, for the last three years, treated cases of malignant pustule by a method which he believes to be entirely novel, the chief remedy employed being phenic acid, used internally as well as externally. The cases he gives are eight in number, the disease having been contracted in various ways, sometimes by the contact of animals which had died of malignant pustule, sometimes by the bites of insects. The first case was a fatal one, being caused by stripping a heifer, and it is adduced to show the inutility of the ordinary treatment by cauterizations of nitrate of silver and hot iron, and the internal use of ammonia, quinine, etc. The fifth case, which the authors considers the most striking one, was that of a butcher who had died of malignant pustule. The seat of the patient's disease was the neck, and Dr. Estradere made a crucial incision of the pustule, and afterward applied the nitrate of silver. The disease, however, became worse, and the œdema spread over the scalp, the forehead, the lips, and the chin, besides the neck and the upper part of the chest. The place of the original pustule was converted into a black eschar, and two large incisions were made over the pectoral muscles ; at the same time the phenic acid was prescribed internally, and compresses of the same substance were applied over the neck and over the incisions. From this point of the treatment the patient gradually improved ; the eschar was, at the end of a fortnight, separated and removed, the subjacent part became of a bright red color, granulations sprang up, and cicatrization was completely effected. Reviewing the history of his eight cases, the author shows that of two of them, treated in the ordinary way, one died and the other recovered with difficulty, but in the cases treated by phenic acid the beneficial effects were observed in all, and the treatment was uniformly successful. Dr. Estradere thinks he has established the fact that the phenic acid, used internally and externally, is the best remedy for malignant pustule, and that all other treatment may be abandoned.—*Brit. and For. Med.-Chirurg. Rev.*, October, 1875, from *Bulletin Gen. de Therap.*, June 15, 1875.

ABDOMINAL SECTION FOR INTUSSUSCEPTION OF THE INTESTINE.

A careful and exact writer, in describing, in 1870, in the *Syestem of Surgery*, the treatment of intussusception of the bowel, stated: "It is but rational to suppose that, in invagination of the intestine, operative interference holds out no prospect of relief, immediate or remote. The pathological conditions already discussed must satify the reader that such a conclusion is founded on substantial reasons." In 1873 an authority equally high and trustworthy, in commenting on a successful case of abdominal section for intussusception, spoke thus: "In conclusion, I may briefly record my conviction that any one who will carefully examine the evidence for and against, will come to the conclusion that operations for the relief of intussusception are not only warrantable, but that in a large number of cases they are urgently demanded." The divergence of these statements, made by Mr. George Pollock and Mr. Jonathan Hutchinson respectively, exemplifies the change that has recently taken place in the opinion of practical surgeons respecting abdominal surgery. The brilliant results of ovariotomy, and the success that has attended the operation of gastrotomy for various purposes, had already done much to correct the exaggerated notions that formerly prevailed of the intolerance of the peritoneum of operative interference; but before Mr. Hutchinson had successfully performed abdominal section for intussusception of the bowel, few surgeons would have cared to recommend opening the belly for the reduction of an invaginated bowel, and fewer still would have ventured to perform it. Since then the operation has been done many times. Dr. Ashurst, Jr., in July, 1874, collected thirteen cases in which abdominal section had been performed for the relief of intussusception, five of the cases being successful; and at a meeting of the Medical and Chirurgical Society, held on the 14th ult., three cases, two of which recovered, were bronght forward; while in the current number of this journal will be found the record of a case that was operated on by Mr. Royes Bell, but without success. Other cases have been published, but they have not yet all been collected together, so that it is difficult to form a true estimate of the average results of this operation. By a somewhat rough search we have been able to find a record of eighteen cases of abdominal sections for intussusception, with eight recoveries; but the number of successful reductions was even higher than this. The question, therefore, that presents itself for consideration is, whether abdominal section may be regarded as a justifiable procedure for the relief of a particular class of cases of intussusception of the bowel after all other measures have failed. Does operation hold out a better prospect of recovery than leaving the case to nature? It is difficult, in the present state of our knowledge, to give a categorical answer to these questions. In the first place, we have no reliable data for comparison; in the next place, abdominal section is acknowledged to be inapplicable to the most urgent cases—namely, those in which the bowel is inflamed or strangulated; and, lastly, the actual condition of the invaginated tissues cannot always with certainty be foretold. Mr. Hutchinson has pointed out that the most hopeful cases are those in which the symptoms have persisted for some considerable time, and which denote incarceration rather than strangulation. On the other hand, it is well known that those cases which are most likely to recover are the milder and more protracted cases, and that reduction by position, injection, and inflation is only possible so long as there are no adhesions and no strangulation; while Dr. Brinton and Dr. Peacock have both shown that, even after strangulation has occurred and the intussuscepted portion has mortified, recovery not unfrequently takes place.

But notwithstanding all the objections, real and hypothetical, that may be advanced against abdominal section, it must be acknowledged that there is a large class of cases of intussusception in which the ordinary remedies fail, and death takes place after a longer or shorter time, from exhaustion and collapse, without peritonitis, and in which there is nodifficulty in reducing the displaced bowel after death. Nor should it be forgotten that there is a danger that an incarcerated intussusception may at any moment become inflamed or strangulated, and ulceration and perforation of the intestinal walls be set up, so that the contents of the bowel escape into the peritoneal cavity and produce fatal peritonitis. With these contingencies always threatening, is it safe or prudent, it may be asked, to defer operative interference because the bowel has not yet become strangulated, or because recovery may take place even after strangulation has supervened? A full and complete answer is not possible until more data have been obtained. If a reference be made to the report published in our columns of the 18th ult., it will be seen that in Mr. Marsh's case, although death seemed imminent before the operation, the symptoms easily subsided after the bowel had been reduced, which was done without any difficulty, and the patient made a rapid recovery. It would require a strong faith in the healing power of nature to believe that the patient would have recovered without operation, yet the bowel was neither inflamed nor strangulated. In Mr. Hutchinson's case, which was alse a young child six months old, considerable difficulty was experienced in reducing intussusception, although there were no adhesions. The child rallied after the operation, but death took place six hours afterward, the post-mortem examination revealing evidence of recent extensive peritonitis. In this case it would appear that the operation had been deferred too long, the symptoms having lasted three days. If the operation had been performed earlier, there is good reason to believe that the termination would have been different. The case brought forward by Dr. Hilton Fagge and Mr. Howse was that of an adult, aged thirty-three. In this instance the symptoms had lasted many days, and, though they were not very urgent, operation was decided on, and was aecordingly performed by Mr. Howse, who found great difficulty in reducing the intussusception, and succeeded only by kneading the mass and pressing on the distal end. The patient recovered without a bad symptom. It is curious to note that both Mr. Hutchinson and Mr. Howse succeeded in reducing the invagination only by manipulation.

Seeing that if the operation be referred too long it may not only prove unsuccessful, but may add another danger, it becomes a matter of the first importance to determine what is the proper period to choose for the performance of the operation, and what are the indications that call for it. It has been laid down that the operation should be performed early in all acute and urgent cases, especially in infants under one year of age, if, after a reasonable trial, the ordinary measures prove unsuccessful, and in all chronic cases which present symptoms of incarceration only, without any evidence of strangulation or inflammation. A very good indication of the urgency of the symptoms and of the gravity of the case is the occurrence of hemorrhage, which is evidence of an amount of constriction on the invaginated portion of bowel sufficient to impede or arrest the venous circulation in the walls of the gut, which necessarily precedes the occurrence of strangulation. It is therefore desirable, as Dr. Hilton Fagge has insisted, to endeavor to anticipate the occurrence of the hemorrhage. The operation should be performed at once if a moderate trial of the ordinary measures fail to reduce the invagination after the hemorrhage has unequivcally declared itself. If deferred beyond this there is great risk of the introverted portion of the bowel becoming so swollen aud tense that it cannot be withdrawn; or inflammation and adhesion between the two serous surfaces may supervene, which would render the operation dangerous and impracticable.

It follows, therefore, that those measures are most likely to prove successful in intussusception of the bowel that are adopted early. Everything should be done, by quieting the action of the bowels, by attending to position, and employing manipulations, inflations, or cold injections, and cold external applications, to reduce the invaginated portion before it has been enlarged and swollen by the accumulation of blood and serous effusion as a result of constriction. If the symptoms still persist, there is, judging from the evidence before us, a good prospect of reducing the intussusception, and saving the patient's life by means of abdominal section, provided that the walls of the bowel or the peritoneal covering be not inflamed or adherent. That death may and often does take place without the supervention of inflammation or strangulation has been abundantly shown by the records of many post-mortem examinations, and for such cases it may be stated with confidence that abdominal section will be found a valuable and comparatively safe procedure. It is scarcely necessary to say that in all cases the signs of intussusception should be unequivocal before so serious an operation as abdominal section be undertaken,—*Lancet* Jan. 1, 1876.

Gleanings.

Southern Medical Record.

Old Friends with New Faces.—Our forefathers were wont to burn tar and naphtha, and make great fires of wood and coal, and burn sulphur, as a means of disinfecting and purifying the air in times of great plague and sickness; and our foremothers (if we may use such a term without disrespect) set great store by lavender and rose-leaves, and rosemary, and divers aromatic herbs, chiefly of the labiate order, which they kept in their rooms, their linen-presses, wardrobes, cupboards, drawers, and boxes. We younger folks have, perhaps, too quickly condemned these practices as foolish and unmeaning. Chemists have long taught us to recognize sulphurous acid, produced whenever sulphur is burnt, as a powerful disinfectant. Carbolic acid, found in tar, and produced by the combustion of wood and coal, is also one of our most popular antisceptics. But there seems little doubt that we may carry our vindication of our ancestors and ancestresses a little further, and claim for their sweet herbs and fragrant things a higher use than the doubtful one of ministering to the pleasure of the olfactory nerves. Dr. Day, of Geelong, has shown that many substances of the hydrocarbon group, ether, kerosene, naphtha, turpentine, and many tinctures, slowly develop peroxide of hydrogen by exposure to light and air. Now, all the labiate family, and nearly all the odorous substances the men and women of old times were partial to—the ingredients of their post-pourris and scent vases—contain hydrocarbons which acquire this very property of absorbing oxygen and developing peroxide of hydrogen, which Dr. Day thinks to be indentical with the antozone of Schonbein. In his first communication to the *Lancet* (in 1864 and 1865), Dr. Day imagined that ozone was thus generated, but further experiments, and particularly the reaction with guaiacum resin, have convinced him that these hydrocarbons generate or acquire antozone, or, in other words, the peroxide of hydrogen. In a paper read before the Medical Society of Victoria, on June 4 last, and published in the *Australian Medical Journal* for June, 1873, Dr. Day carries his investigations a step further, and recommends strongly the use of papers, muslins, and other testile fabrics, soaked in kerosene, gasolene, benzine, and paraffin, etc., which have been thus exposed to the air. But the most interesting part of this communication is, first, the indirect evidence of the remarkable immunity from disease enjoyed by workers in petroleum, furnished by Dr. Berry White, Assistant Surgeon in charge of troops, and Civil Surgeon Dibrooghur, in reference to Makoom, in Upper Assam, where there are petroleum works, for the details of which we must refer to our Australian contemporary; and, secondly, the fact referred to by Dr. Day, of the remarkable permanency of the hydroxyl or peroxide of hydrogen formed in this spontaneous way—some of the sheets of paper having been prepared seven or eight months before, and still giving the reactions of this substance. Dr. Day gives the preference to gasoline, which is almost identical with benzine. He also uses ozonic ether (such as Robbins, of Oxford street, prepares, which is really a solution of peroxide of hydrogen) in the proportion of one part to eight of lard, in cases of scarlatina, as a means of preventing the spread of that disease. The use of lard or sweet-oil for the purpose has long been popular in England, in measles as well as scarlatina, but if it can be shown that the ozonic ether and lard can be kept combined sufficiently long, we think Dr. Day's ingenious plan a decided improvement. Dr. Day informs us, by letter, that fresh animal fats, lard and suet, often contain in their natural state peroxide of hydrogen, loosely combined, which can be demonstrated by manipulation and appropriate tests. One of the Victoria speakers, Dr. Johnasson, thought there might be danger in the use of petroleum papers, on account of their giving off inflammable vapors; but even supposing this to be so, the risk seems to us to be very easily guarded against.—*London Medical Times.*

Strychnia as an Antidote to Alcoholism.—Dr. H. C. Morey reports the case of a man who takes large quantities of strychnia to remove the effects of a long continued debauch. The amount taken corresponds with the length of time he had been drinking and the amount of whisky consumed. On one occasion, when threatened with an immediate attack of dilirium tremens, a dose of twenty grains strychnia restored him io soberness in an hour. For fourteen years the case had been the doctor's observation. The man was often drunk, and as often rendered sober by strychnia—*Edinburg Med. Journal.*

The Puerperal Diseases of the Mammæ.—At the lying-in institution at Dresden, Dr. Huebner has collected some statistics of the most common affections of the breast in pueperal women. He finds that of 2,300 who were able to nurse, 918 or 39.9 per cent. suffered from effections of the breast. It is supposed that the results of similar observation in private practice would be more favorable than those made in an hospital. Forty per cent. of those attacked were primiparæ, and the thirty-third year seemed the most liable to such difficulties. The condition favoring those diseases were a strong constituion, a delicate skin, a medium or small size of the breast, a short and retracted nipple—one difficult for the child to get hold of—a bad development of the parenchyma of the gland, and a small quantity of secretion in the gland previous to confinement, as against the opposite state of these facts. The pressure and suction necessarily exercised by the child in the act of nursing determine, as primary affections in the nipple, redness, erythema, vesicles, and fissures, followed secondarily by swelling of the nipple, of the milk ducts, with scabs, erosion and ulceration. Eczema is to be considered as a special disease. In addition to these affections, the areola is liable to follicular abscess and partial inflammations resulting in localized indurations. Inflammation of the parenchyma of the gland or mastitis, parenchymatosa proper, appears to begin as a hyperæmia of the interacinous tissue, with exudation into meshes of the connective tissue, leading to strangulation and inflammation of the separate acini, the pain being due to pressure on the nerves. These changes are accompanied by increase of temperature and the frequency of the pulse. Wounds of the nipple, blows on the breast, a chill or a powerful mental emotion may, on the second, third or fourth day, convert the physiological swelling of the gland into a mastitis.

Among two thousand and three hundred puerperal women, the author found one hundred and thirty-six cases of mastitis. He states that a previous mastitis does not prevent nursing subsequently, nor does nursing often evoke a new mastitis, although marked alterations in the gland and many cicatrices and contractions predispose to it. His treatment of all lesions of the nipple and areola consists in the constant application, day and night, of lukewarm compresses, wet with lead-water; fissures, ulcers, and excoriations being touched once or twice a day with balsam of Peru, and the breast well supported. The child should nurse less often than usual, and where possible through a nipple shield. He recommends the warm lead-water in mastitis also, to be followed by strapping of the breast and free incision, while suppuration is promoted by poulticing.—*Deutsche Ztschp. f. Med.*, 21 and 22, 1875; *Schmidt's Jahrb., Sep.*, 8, 1875.

PERUVIAN BARK IN SORE THROAT.—Dr. Holden recommends the following formula as exceedingly efficacious in diphtheritic scarlatina and other forms of sore throat:—

R.	Corticis Peruvianæ flav	dr. ij.
	Acaciæ pulv	dr. j.
	Sacch. alb.	dr. ss. M.

S. Mix one-half of this powder in a tablespoonful of cream, and apply frequently with a camel's hair brush.

CARBUNCLE AND FELON.—The following views on the treatment of these affections are given by Dr. C. P. Gage, in the *Transactions* of the New Hampshire Medical Society, 1875:—

"In the treatment of carbuncle, erysipelas and furunculi my treatment has always been based on the theory that they are all blood diseases. After clearing the prima via, the free use of ferri muriate, quinine, and other tonics, together with some stimulants, and good nutritious food, will seldom fail to effect a cure. Local application may afford some comfort, but will do little, if anything, further than that towards a cure.

"In carbuncle, constitutional treatment, with soothing poultices, will do all that can be done to restore in any case. Crucial incisions should never be resorted to. The whole thing is nothing more or less than an inflammation of the cellular tissue running on to the death of the part. When the separation takes place recovery takes place if the system does not succumb. "In the felon the same general plan must be followed, with a free incision of the part, merely with the expectation of procuring ease from the pain caused by the distention."

In the *Transactions* of the Medical Society of the District of Columbia, Dr. Triplett speaks of the efficacy of his treatment of carbuncles, viz: amputation. Hoped every one would try it for himself. What was the objection to it? Was it that we destroyed too much tissue? Carbuncle destroyed its own tissue and took weeks and months to do it. A few days ago he amputated a carbuncle, and the result was so decided that it clearly proved it to be the best treatment. The patient, a negro, aged 40, had a large carbuncle upon the back; the entire back was œdematous. He had suffered for seven or ten days; 10 grains of quinia and three of opium did not relieve the pain. Dr. Triplett gave chloroform, made a long incision (we could not make skin flaps in the usual way but had to cut the tissues like cheese), and cut out the solid mass afterward. Hemorrhage was profuse, for these things are wonderfully vascular. Result was, that to-day the patient had no pain, fever gone, appetite good, the man was himself again. Carbuncles take their own time; we should cut them out, and the sooner the better. The hemorrhage was immediate, and in fact removed from the general circulation; we had no shock. Would not hesitate to amputate, even after sinues had been established. He cited the case of a widow Kelly, of Woodstock, Va., whom he found in a typhoid condition from carbuncle. Her husband had died of the same disease. Feeling that unless relieved she would certainly die, he removed the whole diseased tissue, and the patient made a speedy recovery.—*Med. and Sur. Reporter.*

PRURITUS.—For the intolerable pruritus, common in fall and winter, many physicians use Dr. L. Duncan Bulkley's prescriptions, given in the *Transactions* of the American Medical Association. We repeat them here;—

Unguentum Anti-pruriticum.

R. Pulv. gum camphor.
Chloral hydrat.....................................aa dr. j.

Grind well together in a mortar, till they form a fluid, and add slowly simple cerate, one ounce.

Liquor Picis Alkalinus.

R. Potass. causticæ..dr. j.
Picis liquidæ..dr. ij.
Aquæ...oz. v. M.

Dissolve the caustic potass. in the water, and add gradually the tar, mixing them well in a mortar. Use in solution with from 8 to 16 parts of water.

TREATMENT OF ANAL VEGETATIONS.—M. Cruveilhier, of the Hospital St. Louis, believes, with the majority of surgeons, that these sessile or pediculated vegetations are not dependent on the syphilitic virus, and that therefore internal treatment is not appropriate. They must be detroyed locally in a radical manner, for if a single one is allowed to remain, however small it may be, it will form the starting point of new vegetations, which will multiply without measure. He has employed excision with curved scissors, followed or not by cauterization with diluted perchloride of iron. But he prefers a milder and often more efficacious remedy, pure ehromic acid, which, applied to the small tumors, the healthy parts being protected, mumifies them and causes their decay. This caustic is less painful than nitric acid, or acid nitrate of mercury, and less often causes inflammation in the neighborhood. If these means fail, the operation of removal with the knife must be restored to.—*Revue de Therap.*, 15, 1874.

SEXUAL HYPERCHONDRIASIS.—Every physician has had greater or less experience with patients suffering, either really or in imagination, from sexual irregularity, which gives rise, in some cases, to a great deal of anxiety and trouble, generally needless. Under these circumstances the physician is sometimes called upon to decide questions that involve *ethics* as well as therapeutics. We are glad to have the high authority of Sir J. Roget, as a precedent in such cases, and it affords us pleasure to quote the following from a late lecture, published in the *British Medical Journal.* In refering to the case of sexual hypochondriacs, Roget says :

"To all alike you may try to teach a judicious carelessness about these things ; a state of mind which would be an inestimable blessing to many besides these sexual hypochrondiacs. Many of your patients will ask you about sexual intercourse, and some will expect you to prescribe fornication. I would just as soon prescribe theft or lying, or anything else that God has forbidden. If men will practice fornication or uncleanness, it must be of their own choice, and on their sole responsibility. We are not to advise that which is morally wrong, even if we have some reason to think that a patient's health would be better for the wrong-doing. But in the case before us, and I can imagine none in which I should think differently, there is not good enough for so much as raising a question about wrong-doing. Chastity does no harm to mind or body, its discipline is excellent ; marriage can be safely waited for ; and, among the many nervous and hypochondriacial patients who have talked to me about fornication, I have never heard one say that he was better or happier after it."

We reproduce the above, not so much for the scientific truth it contains, as for the excellent moral lesson it teaches. Emanating from such a source, it carries weight with it. A. A. L.

TREATMENT OF CHRONIC CONSTIPATION.—The *Medical Times and Gazette* contains an interesting article on the "Therapeutics of Chronic Constipation," by Dr. J. K. Spender, of London, and though not of very recent date, we subjoin an extract as presented in the *Half-Yearly Abstract of the Medical Sciences*, relating to the treatment of this annoying malady. The treatment promises not mere relief, but final cure, and "compromises four therapeutic factors : (*a*) minute and frequent doses of watery extract of aloes, very rarely of extract of colocynth ; (*b*) a dose of sulphate of iron (gr. jss or ij), always combined with each dose of the direct aperient ; (*c*) regulation of the diet ; (*d*) constitutional exercise. The author writes chiefly of factors (*a*) and (*b*). The quantity of extract of aloes, in all but extraordinary cases, he says, should not exceed one grain. It is conveniently given in the form of a pill. With this pill there should always be mixed a dose of sulphate of iron varying from one to three grains ; this is the essential point of the treatment. Any other tonic of the neurotic kind cannot supply the place of the iron ; iron is not only *facile princeps*, but is not interchangeable by anything else. Extract of nux vomica may be added, if the prescriber pleases, as an ornamental appendage or as a means of blending the other constituents together ; and belladonna is a remedy of definite auxiliaty power ; but both these drugs, *quoad* constipation of the bowels, are uncertain or unsatisfactory, and rarely do permanent good. Dr. Spender begins, then, by desiring an adult patient to take a pill composed as above three times a day, immediately after the principal meals

He is cautioned that at first there will be probably no apparent effect, and that two or even three days may pass before any medical evacuation of the bowels takes place, perhaps even then difficult and discomforting. But within the next forty-eight hours there will be most likely an evacuation of the bowels once or possibly twice in the day ; *but nothing approaching to purgation ought ever to be permitted*, and, therefore, the patient must be instructed, on the occurrence of the first loose motion, to withhold a pill, and to take only one in the morning and one in the evening. He then continues for a time his morning and evening pill, and is pleased to discover that so slender a medicament has such a decided effect. Not improbably, at the end of another week or fortnight, he is compelled, by the same reason as before, to drop another pill, and the same result is now brought about by one pill daily, as was originally produced by three pills. Within another month, he may reduce his allowance of medicine to a single pill once or twice a week ; and finally his whole scheme of medical treatment becomes merely preventive in its design and scope, and he takes a pill occasionally for the sake of maintaining health and warding off old troubles.

"When there is real or fanciful difficulty in the administration of pills, the best way of carrying out the plan above described is by combining the *mistura ferri composita* with the *decoctum aloes compositum*, the doses being determined by the application of the same principles."

This treatment seems altogether rational, and we hesitate not to recommend it. The object sought is not mere evacuation of the bowels, but restoration of lost tone. A. A. L.

Scarlatina and Typhus Fever.—In a contribution to the subject of the Disease of Children, Dr. S. Kirsch, of Prague, relates a case of scarlatina with diphtheritis of the mouth and pharynx, caries necrotica of the anterior part of the lower jaw, its loss together with the teeth, nephritis, and recovery.

The child was five and a half years of age, and the fever in its early stage presented much severity of symptoms. In the diphtheritic process the tip of the tongue was involved and sloughed off, this being followed by dangerous hemorrhage. The separation of the anterior part of the lower jaw followed this, while the occurrence of albuminuria and anuria added to the serious nature of the case.

The use of carbolic acid and permanganate of potash was resorted to in the treatment of the throat and mouth Attention is also directed to the beneficial influence of quinine in the reduction of the evening temperature.

A second contribution is entitled "A peculiar Prognostic Moment" in a case of typhus in a child. The unfavourable prognosis was founded on the fact, that very soon indeed after the mother's pregnancy commenced, the husband died in a lunatic asylnm from acute mania It is proposed by the author of the paper that the constitutional condition of the child must have been so affected, as to render it unable to withstand the effects of an attack, by no means severe, of typhus fever. The death of the chilld is believed to prove the value of the supposition.—*London Med. Record*, Dec. 15, 1875.

Dilatation of the Cervix Uteri in Dysmenorrhea. — Dr. John Ball recommends the following method of procedure in cases of constricted cervix uteri. Having procured the thorough evacuation of the bowels of the patient, place her upon her back, with the hips near the edge of the bed, and when she is profoundly anæsthetized introduce a three-bladed, self-restraining speculum ; seize the os uteri with a double-hooked tenaculum, draw it down toward the vulva, and then introduce a metal bougie as large as the canal will admit, following it in rapid succession by others of larger size, until one is reached which represents the size of the dilator. Then insert the dilator and stretch the cervix in every direction until it is enlarged sufficiently to admit a No. 16 bougie, which is all that is generally necessary. Then introduce a hollow gum-elastic uterine pessary of about that size, and retain it in position, by a stem secured outside the vulva, for about a week, in which time it has done its work and is ready to be removed. During this time the patient should be kept perfectly quiet, and usually upon her back. Dr. Ball claims that the operation saves a great deal of time, causes much less constitutional disturbance than the use of tents, and is not only safer than the metrotome, but is free from some serious objections to the use of the latter, there being no resulting cicatrix to interfere with the dilatation of the parts, and the condition of the patient after an unsuccessful operation being no worse than before. He says that it relieves the constriction entirely, by breaking up all the adhesions, which are often firm and unyielding; that, acting as a derivative, it cures the hyperæmia of the cervix; and that, further, it establishes a radical change in the nutrition of the whole organ.

He details nine cases of stricture of the os and cervix complicated with vaginismus, chronic endo-cervicitis, version, sterility, dysmenorrhea, etc., in all of which very great relief or permanent restoration to health was effected by rapid and forcible dilatation. In a foot-note the editor of the *New York Medical Journal* quotes Dr. Ellinger, of Stuttgart, as recommending the operation—1, in stricture of the cervical canal; 2, stenosis due to flexions; 3, metrorrhagia in a flabby, swollen uterus, but without new growths; 4, retained catharral secretions; 5, for exploration of the uterine cavity; 6, replacement of a flexed uterus; 7, sterility. Dr. Ellinger declares that he has never had reason to regret rapid dilatation, and urges it, where dilatation is justifiable at all, to the exclusion of all other methods.

IMPROVED FORMULA FOR CAMPHOR WATER.—Wm. B. Addington, Norfolk, Virginia (*American Journal of Pharmacy*), suggests the following formula:

R	Camphoræ	dr. iv.
	Magnes. carb	dr. ii.
	Aquæ destillat	O iv.
	Alcohol	q. s.

Take just enough alcohol to dissolve the comphor and bring it to a liquid state; while liquid add the magnesia and triturate (during this time the alcohol will evaporate). Then mix the water, as usual, and filter. By making a perfect solution of the camphor, the particles are thoroughly divided, whereas, by the U. S. P. process, only enough alcohol is added to break up the adhesion of its particles and reduce it to powder, and all must have noticed the numerous small grains of camphor left on the filter by the present process. Camphor water is made by the process I suggest in one-half the time; magnesia is saved by it, and all the camphor directed is taken up in the solution. By the present process it is not. There is no deposit formed on the bottom or sides of the jar by standing. I have tried this formula for the last eight months, and am very much pleased with it.

CHLORAL IN NOCTURNAL EMESIS.—In *L'Imparciale*, March 17th, Dr. Ademolo relates four cases which were completely cured by chloral hydrate. It may be given at first in doses of seven or eight grains at night, gradually increasing the dose to twelve grains.—*American Practitioner.*

Microscopy.

ON THE ACTION OF CHEMICAL REAGENTS.

By J. EDWARDS SMITH, of Ashtabula, Ohio.

Chemical science has deservedly received attention, to an extent that even a graduate of our public schools is very well posted generally in regard to chemical laws. The functions of minor agencies in modifying chemical action has, however, received very little attention, save at the hands of the professional chemist.

Every one is aware that a solution of protosulphate of iron, added to a solution of nitrate of silver, will cause the silver to be precipitated ; and it is entirely owing to this law that the photographer is enabled to " develop " the latent image on his manipulated plate. The law in this case is well known, but its application in the development of the photographic image calls for the highest skill of the manipulator ; even when all things are apparently equal, thousands of results widely differing from each other may occur in the " dark room " of the photographer ; hence of forty plates thus developed, there would hardly be found two negatives precisely similar. Again, some of these negatives might possibly approach perfection, and others be entirely worthless, while the agencies which produced results so dissimilar were so extremely subtile as to escape the attention of the professional operator.

The above remarks were designed as introductory. I now invite your attention to the contribution of Dr. S. P. Cutler, of Memphis, Tenn. printed in the April No. of the NEWS, entitled " Notes on Papillon's Paper, in Popular Science Monthly, Sept. No., 1873." The Dr. reprints a certain chemical experiment, to wit: fifteen grains of resin were dissolved in one hundred times its weight, 1500 grains, of alcohol, the clear solution poured into a large flask of water and shaken briskly. The resin was precipitated in the form of an impalpable powder which did not " perceptibly cloud the field." The size of the grs. of this dust is stated to be less than the 1-250,000 of an inch.

It would be impossible to repeat the above described experiment with the slightest claim to chemical accuracy unless the manipulator could obtain a sample of the same resin. The specific gravity of the alcohol should also be the same ; and the temperature of both alcohol and water would be points worth careful attention ; and the original proportions of resin, alcohol, and water should have been preserved inviolate.

Dr. Cutler apparently repudiated all and singular the conditions above named, says that he " at once repeated the experiments," and proceeds to describe an experiment of his own, as totally different from the one he professes to " repeat " as can well be imagined ; the Dr. shall tell his own story : " First, I added a drop of tinc. mastic to a little water, which at once rendered it *turbid*, of this I put a drop on a slide, and examined with a 1-5th objective."

It seems to me that the examination with the 1-5th objective was entirely unnecessary, for had he duplicated the original experiment he would have obtained a precipitation which did " not perceptibly cloud the field," and the Dr.'s " turbid " solution was evidently an entirely different chemical product ; it is remarkable that these widely different results should have escaped the consideration of so intelligent a gentleman as Dr. Cutler is known to be.

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* This article was crowded out of our May issue.—ED.

But the most remarkable phenomenon connected with Dr. Cutler's experiments came *de novo*, that is, it had no connection with the original experiment. The doctor could see the particles in his "turbid" solution with his 1-5th, but entirely failed to see them with his low angled French triplet 1-16th, and hence he concludes that other "distinguished observers" have been using too high powers! That Dr. Cutler should thus place the old French triplet, years ago discarded, in competition with modern objectives of either wide or narrow apertures, is at least amusing, if not *instructive*.

ANÆSTHESIA AMONG THE ANIMALCULES.

Read before the Memphis Microscopical Society by S. P. CUTLER, M. D.

A specimen of stale water, containing wild flowers, had in it innumerable quantities of *Paramecia,* also a double species of *fissipperous chilodon, cucullas*, and besides these a number of *brachioni.*

There was a scum over the surface, which was composed almost wholly of slime, and these animalcules were very active. On adding a drop of chloroform to one side of the specimen containing them, it threw those on that side into great commotion, rolling over and over rapidly, and wabbling one end about, some shaking with intense excitement. In about three minutes most of those came to a stand still, as though incysted, and that was the end of them. In the centre and opposite side of the specimen there was still great activity and excitement, though in a few minutes more they began to show the effects of the drug. Just before they died, on many of them there came out a blister or empty sack, which increased rapidly in size, and would seem to be ready to detach itself, though it remained in contact, would fix itself at the end and become part of the animal; in some instances granules could be seen running into the tumor or what not. At the end of half an hour they were all dead. On removing the cover and adding a drop of fresh water, a few small brachioni showed some signs of life. A specimen was treated in the same way with ether, and by the time the specimen was put on the stage they were found to be dead on the side of the ether, though in the middle and opposite side they were active, but not as lively as before treatment. Ether did not exhilerate to the same extent as chloroform; there was the same tendency to sprout out or clister, only in a lesser degree. In ten minutes all were dead, there remained only a microscopic interoceanic *necropolis.*

On treating a specimen with 1-8th grain of morphine, at first they seemed very much exhilerated, and spun around in a lively manner, but soon began to show the effects of the drug by sobering down, and in half an hour all the *Paramicea* were still, and some of the *brachioni* were still alive; in three quarters of an hour all the balance were less active. No others died after this time so long as observed, which lasted one hour and a half. In this specimen there was quite a large worm, which showed the effects of the drug, but was not killed.

A specimen was treated with tinct. of aconite, which killed them all by the time the specimen could be placed on the stage.

A drop of alcohol destroyed all in a specimen instantaneously; they must all have been little temperance folks, and could not stand strong drink. It sometimes takes a good while for alcohol to kill some folks.

Tinct. of belladonna did not kill them so readily, owing no doubt to the fact that it was made of whisky instead of alcohol; but in time it destroyed them all.

Creosote destroyed all instantaneously.

Fowler's solution destroyed most of them instantly; some few only lived a short time.

ENORMOUS DEVELOPMENT OF AMŒBÆ IN THE LARGE INTESTINE.

Amœbæ are rarely found in the large intestine, for which reason even prominent authors have denied their presence in this place altogether. The author had the good fortune to observe extraordinarily large numbers of them in the very interesting case of a peasant, from the south-eastern part of Russia, who came during the summer of 1871 to the metropolis, to get some work there. Here he was attacked with diarrhea for several months; became at last weak, and was consequently sent home, where he completely recovered in the course of the next year. Then he wandered for a second time to St. Petersburg in May, 1873, succeeded in getting employment, but obtained only a miserable hut for shelter, and had to work hard to live. It happened that in August he again became sick with diarrhea, which this time was combined with fever, weakness and tenesmus. Besides, there was pain upon pressure in the left iliac region. His stools contained slime and pus, formed into balls. A large number of amœbæ were found in them. Argr. nitr. with opium, clysters with arg. nitr. carbolic acid internally, and clysters with it, did not until November improve the patient's condition; and amœbæ were still found in his stools. Other remedies were then used, as tannic acid, plumb. acet., nux vom., rheum, bicab. soda, but with no better results. Meanwhile experiments with dogs led to the view that the disease would be mastered only if the amœbæ were beforehand destroyed. As a solution of 1-5000 sulph. quin. was sufficient to kill the parasites in a few minutes, a new medication commenced. The patient received a clyster of one scruple of quin. sulph. in one ounce of water, and afterwards of as much more tepid water as he could bear. Besides, he took twice a day five grains of quin. sulph., of which the dose taken lastly was combined with sulph. soda, to hinder the absorption of the quinia by the stomach, and to clean his intestines. When the patient had been treated in this manner for about one week, he felt much better, and a few days later no amœbæ could be detected in his stools.

It was now hoped that the patient would entirely recover, but not much later a few amœbæ were again found in his stools, and one week after this their number was as large as before the treatment with quinia was commenced. Probably there were a few amœbæ left undisturbed by the quinia, and these rapidly increased.

The treatment was expectative which now followed. The patient became very weak, and in March, 1874, a pleurisy attacked him, under which his temperature was raised to 105° F., and his stools became of a typhoid-like condition. The amœbæ now disappeared for a second time, and were not again observed. The author thinks that they were killed either by the high temperature or on account of the chemical properties the patient's stools assumed. Though afterwards the inflammatory state of the intestine was improved, the patient's life could not be saved, as the pleurisy was followed by cheesy pneumonia in the apices of both lungs.

By the post-mortem examination it was found that the mucous membrane of the large intestine was thickened, hyperæmic and œdematous. Extravasations and healing ulcers, also cysts arising from the submucous membrane, were found in certain places. The body of the parasite consisted of a partly granulated, partly hyaline, protoplasm, inclosing a pale, round nucleus and several vacuoles. A number of accidental parts, as bacteriæ, vibriones, micrococci, red and white blood corpuscles, and nuclei of decomposed cells, was also entangled in the body of the animalcula.

The disease was developed in a similar manner in a dog, into whose rectum was introduced a number of amœbæ. After the dog was killed, there could be observed in the intestine similar changes to those described. The slime in the dog's rectum, as well as the ground of the ulcers, was covered with amœbæ. But, as the phenomena of the disease were developed only gradually in the dog, but stormily in the patient, the author thinks that the patient was first attacked with dysentery, and afterwards became infected with the animacula.—*F. Loesch, of St. Petersburg.*

DUNKIRK (N. Y.) MICROSCOPICAL SOCIETY.

The regular meeting of the Dunkirk Microscopical Society was held at the rooms of the Society on Friday evening, Feb. 21, 1876. The President Dr. Geo. B. Blackham in the chair. After the business session was over the Scientific session was opened.

Dr. C. P. Alling called attention to Dr. W. W. Keens recipe for mixture used in preparing specimens in Natural History as follows: Chloral hodrate, grs. x—xij; aqua dest. f℥j. M. For injection or immersion in place of alcohol. The advantages claimed are: It preserves the natural consistency and color, and prevents the formation of fungi and infusoria.

Dr. Alling presented for inspection three microscopical objects, which he had recently mounted in balsam: 1, Head of lightning bug (Lampyrus noctiluca (?); 2, Body of same with head, elytra and one foot removed; 3, Foot of same.

Dr. Blackham presented the following objects, which he had mounted in balsam since the last meeting: 1, Parasite from the domestic hen; 2, Parasite of the dog; 3, Ova of same.

Dr. Blackham exhibited a Cox's self-centering turn table, manufactured by Queen & Co., Philadelphia.

The essay for the evening was read by D. Alling. Subject: "The Diurnal Lepidoptera in the Society's Collection." First, speaking of the more noticeable characteristics by which the different varieties are commonly distinguished, which were illustrated by actual specimens and drawings, he proceeded to the scientific classification of the various specimens in the cabinet, which shall form the basis of the Society's catalogue now in contemplation. The method of classification adopted is that of Prof. Morris, of the Smithsonian Institute.

The President announced that the essay for the next meeting would be by Rev. J. W. Armstrong, D. D., on the Natural History and Classification of the Diatomaciæ. Adjourned.

MRS. M. E. C. SHELTON, *Secretary.*

PHOTOGRAPHS OF BLOOD CORPUSCLES.—We have received from Dr. C. Leo. Mees, of Columbus, O., a number of specimens of blood corpuscles, photographed directly from the microscope. Specimens of human and of the cat, and of human and the dog are so mounted in juxtaposition that the relative sizes are easily perceptible. Thus, a card having pictures of human corpuscles and those of the cat exhibit the former to the eye nearly twice as large as the latter, while a card of human and dog's show both to be nearly the same size—the average of the latter being but slightly less.

This mode of exhibiting blood corpuscles of different animals is original with Dr. Mees.

The following description is from the Rev. J. F. Stidham, of Columbus:

"The mode of preparing the slide is, to spread first a drop of blood on a carefully picked *flat* slide. In spreading we use Dr. Christopher Johnson's method, which is to place a small drop of blood on a slide, then taking another slide—the narrow edge ground straight and smooth—touch this edge to the edge of the drop, where it will run along by attraction; then draw steadily along the slide, and after a few trials, you will never fail to get magnificent slides. Now take the slide, when the spread blood is dry, and holding a slide across the centre, with the knife straight and sharp, cut along the edge of the slide, and carefully scrape away one-half of the blood. The cut down the top slide is necessary to have a sharp edge to the blood. Your slide will now have blood on one-half of a slide, and taking a small cover, say five-tenths, fasten it to another slide by a little moisture, repeat the operation as given, and you have only to remove the cover, turn it over, carefully bring the edges of blood together, and sealing first with a hot wire, or gum and wax, then finish. It will be essential to pick out a flat cover and slide first of all, which may be tested by placing the cover on the slide and putting a drop of water on edge of cover; see whether capillary attraction carries it evenly and entirely under the cover. If both surfaces are not flat, the two bloods will not be in focus at once."

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DOUBLE STAINED VEGETABLE TISSUES.—We are under obligations to Geo. D. Beatty, of Baltimore, for a number of slides of vegetable tissue, most beautifully double stained, exhibiting the anatomical structure of the parts in a very admirable manner. Dr. B.'s method of staining we published in an article by him in last year's volume of the MEDICAL NEWS. At that time we received a number of specimens from him, but those we have recently received are much superior. He has kindly promised to prepare an article soon for our readers descriptive of his *improved* mode of staining. Dr. B. has undoubtedly brought the art to great perfection.

We have also received from Mr. L. R. Peet, of Baltimore, some very beautiful slides of double stained vegetable tissues—and when we say beautiful we mean it. The staining is done by a process which Mr. Peet says is strictly his own, being done with compound dyes first conceived as possible, and afterwards invented by him. Each slide contains a number of constituent parts of a flower or leaf.

Mr. Peet offers his slides for sale at the very low price of seventy-five cents a slide. Samples can be seen at the office of the MEDICAL NEWS.

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FRUSTULA SAXONICA.—Dr. J. J. Woodward, Assistant Surgeon U. S. Army, Washington, D. C., publishes an article upon the markings of this fine test object, in the *London Monthly Microscopical Journal* of December, 1875. The article is illustrated by six photographs of this diatom. One thing is plainly evident,—that however excellent the photographic work may be, it fails in Dr. Woodward's hands to represent the best work of the microscope. The transverse lines, about 89,000 to the inch, are shown indifferently well, and the finer longitudinal ones are so drowned and obscured as to lead Dr. Woodward to doubt their existence. More careful adjustment and pains-taking manipulation or a better glass would have dispelled most of the diffraction lines, lifted the hazy veil, and enabled the observer to see this beautiful shell as others have seen it. It would also have saved him from taking the position of doubting the positive testimony of others when he has nothing but negative testimony himself to offer. The present writer had seen the fine longitudinal lines in question, 95,000 to the inch, counted them, and given the results to the public through the columns of the *American Naturalist* nearly three years ago, and has seen them many times since. Less than a month ago, as had been the case before, both sets of lines were seen at once, and the face of the shell appeared covered with distinct and regular checker work; an appearence not presented or approached by any of Dr. Woodward's photographs. Both Dr. Woodward and myself were fortunate, or perhaps unfortunate, in having to work on Moller's finest and most difficult specimens. Perhaps Dr. Woodward might have got both sets of markings if he had been as fortunate as was Mr. Hickie (M. M. J. March 1st 1876, page 123,) in having coarser specimens to study. G. W. MOREHOUSE.

GIANT CELLS IN HEALTHY GRANULATIONS OF WOUNDS OF MEN.—The author's material was taken from wounds of living men, and hardered in Mueller's liquor. Only such tissues were examined as were found in a healthy state, and which surely were of a new formation. The giant cells could not be observed in the pyogenic layer, but only in the plasmatic stratum. They vary in largeness and in form; sometimes they have prolongations. The nuclei were sometimes placed near the periphery of the cells, in two, three or more rows, sometimes scattered in the protoplasm. The nuclei were pale, had an oblong form, and appeared in different states of partition. The protoplasm was pale and finely granulated. Giant cells were observed in wounds caused by various circumstances, and occurring to anæmic persons as well as to persons in good health.

As of late giant cells have often been the object of researches, the author points out those states of tissue and its elements which may easily be confounded with them. As such he considers: 1. Cross-sections of lymph vessels; 2. Cross-sections of thrombous vessels, to be recognized as such by the organization of the thrombi; 3. Cross-sections of capillaries and other small vessels filled with white blood corpuscles; 4. Conglomorates of detritus, which are only to be expected in pyogenic layers; 5. Micrococci; 6. Cross sections of hypertrophied muscle fibres; 7. Cross-sections of epitheloid formations; 8. Cross-sections of nerve fibres—but these are only confounded with a weak magnifying power.

The author considers it as probable that the giant cells may originate from white blood corpuscles. If there is any connection between giant cells and blood-vessels, he did not observe, but thinks it is possible.—*Virchow's Archives.*

CENTENNIAL LETTER.

PHILADELPHIA, May 16, 1876.

By the time this reaches the readers of the MEDICAL NEWS an account of the inauguration of the grandest World's Fair of the ages will have flashed by the electric sparks over the globe, and been carried by myriads of swift messengers into every nook and corner of the land. People in all the hamlets and villages of America will have read from countless correspondents, notes of the jubilant scenes of the day. These scenes were imposing, impressive, and inspiring to the last degree. No such celebration was ever witnessed since our fathers founded the Republic.

Every department of the National Government was repesented ; the Emperor of Brazil with his suite, and the diplomatic corps of many foreign governments were present in person, with governors and legislatures of the States, mayors of the cities, and thousands of guest of distinction in every rank and profession. It was an august assemblage. Multitudes of the people attended. It is estimated that 200,000 at least were there. Such a mass of humanity was never before seen in any similar gathering in the world's history. The opening has been truly auspicious, and marks an event altogether unique and wonderful in our country's annals.

PHILADELPHIA'S LODGING CAPACITY.

It had been asserted that the Centennial City had not, and could not provide, accommodation for the floods of visitors that would surely pour in upon her during the year. This question is now set at rest beyond reasonable doubt. When Philadelphia was chosen as the site of the proposed celebration her hotel capacity did not, it is true, exceed 10,000 guest. But public sentiment was aroused on the question, and capitalists saw their opportunity and engaged in projects that to-day stand out in their completed proportions for the admiration of all who applaud well-directed business energy and enterprise.

FIGURES SPEAKING FOR THEMSELVES.

The Board of Finance have estimated, upon the basis of the attendance at the Vienna and Paris expositions, that there will be at leaset 10,000,000 admissions to the grounds during the Exhibition—an average of 65,000 per day. This average attendance can now be provided for by the hotels alone! By extending old ones, and the erection of monster new ones, some of them accommodating their 1000, 2000, and 4000, each, and with the innumerable smaller houses opened in the vicinity of the grounds capable of entertaining their 100 to 400 guest each, the number of 65,000 is reached. In it are included the hostelries erected on the dwelling-house plan,—that is, rows of houses so constructed as to be readily transformed into dwelling-houses after the Exhibition is over.

"A CITY OF HOMES."

It must be remembered, too, that Philadelphia is emphatically "a city of homes," having her 144,000 dwelling-houses within her city limits. Among these are a great number of quiet, respectable boarding-houses, well organized to entertain visitors, and give them accommodation of room and table superior to many a good hotel, and at rates ranging from $1 to $2 per day. Many private families, too, have for the nonce arranged to keep house for Centennial visitors at very moderate rates of charges. The Centennial Boarding-House Agency, having the special sanction of the Board of Finance, has already engaged accommodation for 20,000 visitors on very reasonable terms, and there are other responsible and reliable agencies in the same work. The aggregate capacity of these accommodations is estimated at 50,000 guests daily; and when we add the number of private houses whose latch-strings will hang out for relatives and friends to whom the rare, old-fashioned Philadelphia hospitality will be heartily dispensed, we may safely put the figures of possible accommodation at 130,000 daily, with a still further capacity of expansion upon such emergency days as the Fourth of July and other special great days of the Exhibition.

ROOM ENOUGH FOR ALL.

We have been particular in setting forth these items, that all who propose to visit the Exhibition may feel assured in advance that there are accommodations in the city for all who come far superior to those in most of our summer watering-places; means of getting around from place to place quietly and comfortably, at the usual rates for such service; and a public sentiment that will frown down any attempts at extortion which would disgrace the Exhibition and go far to defeat the beneficent ends it is fitted to accomplish. Centennial comes but once in a hundred years! Make your arrangements to visit and enjoy it. If you miss it, you miss the grandest civic opportunity of your life. Not to have been at the American Centennial will rest almost as a stigma upon an American citizen when the records of his individual life come to be unfolded around the fireside or in the biography of the future. PHILOPATRIAN.

TRANSLATIONS.

By W. A. ROTHACKER.

THE MORPHIA HABIT.

Dr. E. Levinstein (*Berlin Klin. Wochenschr*, No. 14) gives an account of the treatment of persons addicted to the use of morphia. The first case was that of a physician who had daily used from eight to fifteen grains of the drug. On his arrival at the hospital, he presented the following appearance: Man of medium size, tolerably muscular; gait normal; reels when the eyes are closed; shows tremor artuum and talks like a drunken man. Morphia was entirely interdicted. A few hours afterwards he was in the following condition: He first imagined he was riding in a coupe with the Princess Frederick Charles; he then became greatly agitated, begged for morphia; he said his heart was perforated; he threw himself violently against the door and the furniture so that he had to be removed to another apartment. Here he screamed for almost two hours; he said his confinement was inexcusable; he railed at the physicians; he ridiculed the stupidity of the treatment pursued, and said that only morphia would bring him relief. At length he became more quiet and complained of cold. When it was suggested to him that he had better go to bed, he replied that he dared not undress himself for he sat in water; he smelled it. He then began to look anxiously around and to inquire why the people out in the corridor spoke so rudely of him. Finally he saw strange forms approaching him, and making threatening movements towards him. On the next morning at six o'clock the patient was free from these hallucinations, although he remembered distinctly his experiences of the day before. During the course of the day he had, in addition to the symptoms of the previous day, double vision. After he had been under treatment for five days, the sleeplessness, weakness and difficulty of speech disappeared. For an entire day he was almost free from the annoyances caused by the deprivation of morphia; then there came a violent return of all symptoms, which again disappeared after the lapse of three days. Fourteen days later the patient was able to take long walks by himself, and in the week following he was able to do some work. His weight had increased eleven pounds in one month.

The second case had taken fifteen grains of morphia daily since 1872. This patient had in addition to the symptoms of the first case, violent tremor, diarrhea and vomiting. He was in the hospital for three weeks; at the end of this time the habit was broken, and the patient discharged cheerful in mind, with an increased weight of seven pounds.

The author insists that there is but one method of cure and that is "away with the morphia!" Let the patient be entirely deprived of the drug. The symptoms, no matter how severe, will in nearly every case certainly disappear.

PREGNANCY, WITH UNRUPTURED HYMEN.

Prof. Braun (*Wien. Medic. Wochenschr*, Nos. 13 and 14) has detailed some exceedingly interesting cases from which he derives these conclusions:

1. The integrity of the hymen cannot alone be accepted as an evidence of virginity.
2. The hymen may have such elasticity that a small member might be forced into the hymen opening without leaving any trace of its presence in the vagina, so that a female might be a virgin in an anatomical sense, when she was not in a gynæcological.
3. As is evidenced in two of the cases detailed, it is not necessary for impregnation that the male member be introduced into the vagina; but all that is required is that the semen be placed within the vulva.
4. An unruptured hymen can never be regarded as an obstruction in labor.

ABSORPTION OF MEDICINAL SUBSTANCES BY THE VAGINAL MUCOUS MEMBRANE.

Dr. E. W. Hamburger (*Viertelyahrschrift für Praktische Heilkunde*, No. 30) gives an account of some very interesting experiments made with the view to ascertain whether absorption of medicinal substances could take place from the mucous membrane of the vagina. His observations were made on women, and in the following manner: two tampons were saturated with a solution of some substance and these tampons were introduced into the vagina by means of a Fergusson's speculum. Over these, two dry tampons were placed. The tampons were of cotton, thoroughly washed and freed from fat. The persons on whom the experiments were made were instructed to thoroughly empty their bladders and the tampons were retained twenty-four hours. For the subsequent investigation of the urine, only such urine was used as was obtained by the catheter, for had the urine been evacuated by the natural way, the admixture of vaginal discharge would have compromised the results obtained. The women were from twenty to thirty years of age; entirely free from disease of the vagina and of the sexual organs generally. The patients were carefully watched. The first urine was drawn two or three hours after the insertion of the tampon and the precaution was taken to cover the vaginal opening carefully with cotton before the catheter was employed. Only such substances were used in these investigations, as are easily soluble, that are not found in normal urine, and that can produce no ill effect on the vagina. Quite a variety of substances were used, as iodide of potassium, salicylic acid, ferrocyanide of potassium, bromide of potassium, etc., etc. After varying periods the urine was examined and gave evidence that absorption of the substances introduced into the vagina had taken place. The author in summing up says: "The results of my experiments show that in cases where it is impossible to introduce medicines into the system from the stomach, the mucous membrane of the vagina furnishes a ready means of introduction. Although the indications of danger are not great, yet these experiments should caution gynæcologists from introducing large quantities of narcotic substances, etc. into the vagina, as suppositories.

Book Notices.

THE PATHOLOGY AND TREATMENT OF CHILDBED: A Treatise for Physicians and Students. By DR. F. WINCKEL, formerly Professor and Director of the Gynæcological Clinic at the University of Rostock. From the Second German Edition, with many additional Notes by the Author. Translated by R. CHADWICK, M D., Clinical Lecturer on Diseases of Women, Harvard University. 8 vo. pp. 484, 1876. Philadelphia: HENRY C. LEA. Cincinnati: R. CLARKE & Co.

The treatise of Dr. Winckel is, in Germany, the standard authority in this branch of medicine, and the translator trusts that it will prove a valuable addition to American medical literature, in that it presents in the most impartial manner the views of all the distinguished men who have contributed to a better appreciation of the pathology and treatment of the diseases of childbed.

The author has avoided, when possible, all far-fetched deductions and unprofitable hyphotheses. Instead of adducing arguments, he has endeavored to set forth clearly all well authenticated principles that are based upon experience; to acquire new facts, and corroborate old ones, often by means of very tedious research.

We feel quite sure that the profession of this country will give this interesting and learned work a cordial welcome.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M. D., London, Physician to Charing Cross Hospital, etc. Second American from the Third Revised and Enlarged English Edition. Illustrated by 111 Engravings on Wood. 8 vo. pp. 316, 1876. Philadelphia: HENRY C. LEA. Cincinnati: R. CLARKE & Co.

The pathologists and microscopist will find this a most valuable and interesting book, and will undoubtedly give it a place among the works of the most eminent authors.

The work consists of forty-six chapters, in which are considered more or less fully the changes which are brought about in the various structures by pathological causes. Chapter first considers the "cell" as the seat of nutrition and function; then is discussed the constitution of cells, protoplasm, nucleus, cell wall, physiology of cells, genesis of cells, vacuolation. In the remaining chapters we have an account of the various degenerations, as fatty, mucoid and colloid, amyloid, calcareous, etc. Then comes the consideration of new material, as sarcomata, fibromata, myoxomata, lipomata, adenomata, carcinomata, etc., etc. In other chapters are considered pulmonary phthisis, changes in the blood and circulation, thrombosis, embolism, inflammation of the lungs, heart, mucous membranes, liver, and other organs and structures. In short, the whole field of pathology is reviewed, briefly but sufficiently full for the student and practical physician. The last chapter is devoted to the consideration of the preparation and mounting of specimens.

As we have before intimated, we feel quite sure the pathological student will find this a very valuable work.

Editorial.

NOTICE.—We send bills with this No. to persons who have not paid for current year, and hope to receive a prompt response. Should a notice be sent by mistake to any one who has paid we will be pleased to make the correction.

MEETING OF REPRESENTATIVES OF MEDICAL COLLEGES.—"'It is proposed, at the coming meeting of the American Medical Association at Philadelphia, to call together the representatives of the various medical colleges present to consider matters pertaining to reform in medical college work. It is suggested that the time for the meeting be Friday, June 2, 1876.

"'We most decidedly favor the movement, and, among other subjects to be brought up and urged for adoption, we would suggest recommending to all the colleges making three courses of lectures necessary for graduation.'"—*Cin. Med. News.*

"In the theory such meetings are excellent. In practice they are worse than useless; they develop only what is ridiculous and discreditable. At the last meeting of 'teachers.' the representatives of the most prominent colleges refused to bind the schools to any method or plan. The Convention passed a series of absurd and 'bunkum' resolutions, and those representatives who were most noisy were the representatives of the colleges which first repudiated those famous 'whereases' and 'resolutions.' The records of that meeting belong to the comic and absurd chapters in the volume of American medical legislation. As to the claim that any action taken may be useful as advisory, this may do to please babes and sucklings, but not those familiar with the history of such meetings. Colleges which, in good faith, undertake to carry out the results of such legislation, soon find themselves deserted and betrayed. When teachers do not pay the least regard to the advisory action of the great representatives Body of their profession, the American Medical Association; when they fear to really bind themselves, and violate all of the understanding agreed to among themselves, a meeting of teachers may be held to gratify the enthusiastic, the trusting, the designing and the unscrupulous, the Pickwicks and the Pecksniffs of medical colleges, but as to the result this is easily told, vox et præterea nihil.—*Louisville Med. Weekly.*

THE returns now in from the various medical schools show the following number of doctors made this year: Bellevue Medical Hospital, New York, 159; Jefferson Medical College, 146; University of the city of New York, 133; University of Pennsylvania, 124; University of Louisville, 112; College of Physicians and Surgeons of New York, 93; Louisville Medical College, 86; Medical College of Ohio, 90; Rush Medical College, Chicago, 79; University of Nashville, 64; Missouri Medical College, 67; St. Louis Medical College, 47; McGill University, Montreal, 34; Washington University, Baltimore, 32; Atlanta Medical College, 30; Medical College of State of South Carolina, 29; Cincinnati College of Medicine and Surgery, 77; Trinity College Medical School, Toronto, 18; Medical College of Virginia, 17; University of California, 13; University of Georgetown, 13; Women's Medical College, Philadelphia, 12; Columbian University (National Medical College), 12; Medical College of the Pacific (November, 1875), 11; Women's Hospital Medical College, Chicago, 10; Evansville (Ind.) Medical College, 8; Howard University, Washington, 7; College of Physicians and Surgeons, Kingston, Ontario, 6; Women's Medical College, New York, 4; total, 1,483. If we add to this a similar number of persons who felt called to practice medicine this year without diplomas, we shall have about three thousand medical recruits for 1876; a fearful division to go into fame and fortune.

INTERNATIONAL EXHIBITION.—Owing to the very large number of persons who contemplate a visit to Philadelphia during the coming summer, it seems important that the utmost publicity should be given to all facts bearing on the sanitary condition of the city.

The following statistics, which have been obtained from the most authentic sources accessible, represent the mortality in some of the chief cities of the world during the past four or five years:

	Number of years.	Average population.	Average total mortality.	Average death rate per thousand.
Viennna,	5	648,560	20,424	31.42
New York,	5	994,458	29,601	29.93
Berlin,	4	950,000	28,420	29.91
London,	5	3,284,488	76,741	23.33
Paris,	4	1,851,792	42,724	23.06
Philadelphia,	5	744,831	16,573	22.27

While thus showing an average rate of mortality more favorable than that found in any other city containing over 500,000 inhabitants, Philadelphia has recently (1874) attained a degree of healthfulness almost unparalleled, viz.: with a population at that time of 775,000, the number of deaths was but 14,966, giving a death rate of only 19.3 per thousand. These very favorable results are largely due to the abundant and cheap water-supply, and to the opportunities given, even to the poorest citizens, for the enjoyment of pure country air in the great Fairmount Park, which contain 2991 acres. The extent to which this is valued by the citizens may be inferred from the fact that during the year 1875, the park was visited by over eleven million persons.

The most powerful influence of all, however, is the absence of that overcrowding of the population, which is the most fruitful source of sickness and death in many quarters of nearly all other large cities. This will be more clearly comprehended when it is remembered that the 817,488 inhabitants of Philadelphia are spread over an area of 120½ square miles, which are traversed by more than one thousand miles of streets and roads; and that the city contains, in addition to other kinds of buildings, 143,000 dwelling-houses occupied by families—a number exceeding by over 40,000 that of any other city in America.

The climate of Philadelphia is also, on the whole, a favorable one, although presenting many of the peculiarities common to inland localities. The mean annual temperature of the last ten years is 53.73° Fahrenheit; the average annual rain-fall is about forty-five inches.

The following table exhibits the mean temperature of each month for the past ten years, showing that the range is far less extreme than is found in many other less favorably situated localities:—

MEAN TEMPERATURE (FAHRENHEIT) OF EACH MONTH DURING THE PAST TEN YEARS.

January,	32.72°	May,	63.24°	September,	67.72°
February,	33.12	June,	73.54	October,	56.03
March,	39.16	July,	78.74	November,	43.34
April,	53.36	August,	75.92	December,	33.92

It is thus seen that only during the months of June, July, and August does the mean temperature rise to a high point. During this period there are very any prevailing epidemic diseases; and the chief mortality occurs among children, especially among the poorer classes.

The health of Philadelphia at present is unusually good. Timely efforts have been made to secure an abundant water-supply to meet the great increase in the demand which must be expected this summer as compared with previous years. Constant watchfulness will be exercised by the authorities to maintain cleanliness, and to avoid or remove every possible cause of disease.

Within the exhibition grounds a rigid sanitary inspection will be maina tained, under the control of the Bureau of Medical Service; and thus - guarantee will be afforded that no cause of infection or disease will be allowed to occur through neglect of this important duty.

The object of this circular has been to call attention to the unusual sanitary advantages of Philadelphia, and to the preparations which have been made to ensure the highest possible degree of healthfulness during the approaching exhibition season. It is proposed to issue at certain intervals other circulars, announcing in an official and accurate manner the sanitary condition of the city, so that entire security may be felt by all who desire to visit the Centennial International Exhibition.

15th April, 1876. WILLIAM PEPPER, M. D., *Medical Director.*

J. F. Clarke, M. R. C. S., in his "Autobiographical Recollections of the Medical Profession," makes the following remarks upon specialism. In these modern days, when specialism is so rife and the forms and varieties of it so numerous, we think that his views will prove of interest to professional readers: Whatever may be the advantages of the division of labor—and these are many—I contend that whatever conduces to the union of medicine has far more advantages. With respect to the profession itself this, I think, is undeniable; but with regard to the public this consideration has vastly more weight. The confidence of the general community in medicine has been sadly and irretrievably shaken by what is called "specialism"—a term most objectionable in itself, and in its results beyond all calculation mischievous. Let me, for instance, take two cases in which it may be admitted. If "specialism" is ever justifiable in practice it is with respect to the eye and deformities of the limbs and body. Well, who were the great pioneers of practice in diseases of the eye in the last generation? Certainly, I should say, Lawrence, Tyrrell, and Wardrop. But would not these great surgeons have repudiated the title of "oculists?" I know they would, and with great reason. No men were ever more anxious to support and act on the principle of "unity" than these justly eminent surgeons. Their monographs on "Diseases of the Eye" are still books of reference; but Lawrence prided himself more on his admirable work on "Hernia," Tyrrell on his operative skill and general proficiency, Wardrop on his operation for the treatment of aneurism by ligature on the distal portion of the artery, and his most ingenious and able work on "Diseases of the Heart," far more than for all they had written on eye diseases. Take the second. The two men who have done more for orthopedic surgery than all other practitioners of our time are Stromeyer, on the continent, and Little, in our country. But these men would repudiate the title of "specialists." To them the practice of orthopedy was but "a halt," as it were, "on the road-side," not the "journey of life." But their enlarged views with respect to practice, their profound knowledge of the human frame in all its aspects, made them far better practitioners than those who devote themselves merely to the study and treatment of crooked spines and deformed legs. The proposition holds equally good with respect to other specialties. Is it to be assumed that the "skin doctor," who advertises daily the number of "cures" at his so-called "hospital" or "dispensary," is a better physician for skin diseases than he who takes a broad view of the disease, who, in fact, treats his patient on general principles, and regards the eruption on the surface as a mere symptom? I think not. With regard to other specialties of a minor kind one really has hardly patience to discuss them. But look at the effect of these "special" hospitals and dispensaries on the larger general hospitals. They not only divert funds that might be more usefully and profitably employed, but they intercept from the general hospital cases which, under different circumstances, would form the material of clinical instruction to the rising race of practitioners. It is gratifying to observe that the evil to some extent has met with a check by the appointment of practitioners to lecture on what are called "special" diseases in our general hospitals. This is the more to be rejoiced at, because eventually there can be no doubt this step will stop the progress of private enterprise in the formation of special hospitals and dispensaries; for it is well known that, however grand or "universal" may be the title of these institutions, they are usually the private property, and have been established for the private gain of their founders. I hope to be pardoned for this somewhat lengthy digression from the subject of this chapter, but it has a direct bearing upon it, and may not be without its use in carrying out any argument. Well, then, I say, if the various societies which of late years have sprung up had been allied with the Royal Medical and Surgical Society, so as to form, as it were, a Royal Academy of Medicine, the cause and honor of the profession, as well as the interests of the public, would have been enhanced, instead of, as they are under present circumstances, injured. That this view is entertained by the more distinguished members of the various societies is proved by the efforts that were some time since made to effect an "amalgamation" of the various medical bodies. I fully believe that the "inexorable logic of facts" will eventually result in this amalgamation. Whatever tends to the unity of medicine, to the reprobation of the unwarrantable pretension of mere "specialists," can not fail to be of advantage to the public and to "the rank and file" of the practitioners of medicine.—*Louisville Medical News.*

A New Medicine.—At the last annual meeting of the Medical Society of Virginia, Dr. W. F. Barr called the attention of the fellows of the society to a new preparation of iron and alum, manufactured in Washington county, Virginia, from the waters of "Seven Springs." It is made by evaporation, and the analysis, by Prof. I. W. Mallet, finds it to consist chiefly of iron alumina, magnesia and lime. This medicine had been prescribed by the physicians of the southwestern section of the State, and found to be a most excellent tonic and alterative. One advantage it has over the ordinary ferriginous preparations is that it does not constipate the bowels. On the contrary, it acts as an aperient. It had been indorsed and recommended by the Abingdon Academy of medicine "as a valuable tribution to Materia Medica." He hoped that the fellows of the society, and physicians generally, would give it a fair trial. It is beneficial in dyspepsia, chonic bronchitis, neuralgia, rheumatism, nervous and sick headache, chronic diarrhea and constipation, leucorrhea, amenorrhea, dysmenorrhea, menorrhagia, anæmia, chlorosis, choræ, diseases following intermittent fever, andd in all cases in which it is desired to improve the impoverished condition of the blood.—*Transactions Medical Society of Virginia, Oct.,* 1875.—*Virginia Medical Monthly.*

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Original Contributions.

SURGICAL CASES.

Read before the W.Va. State Medical Society. By JOHN FRISSELL, M. D., Wheeling.

URETHRO-VAGINAL FISTULA.

Upon the 6th of May, 1874, Mrs. F., from Tyler Co., West Va., called upon me for the purpose of having an operation performed to close a fistula between the vagina and urethra; five weeks and two days previously she had been in confinement with her first child, and two weeks after that event the existence of the fistula was first discovered. Mrs. F. stated the following facts: She was born Jan. 5th, 1840; married June 19th, 1863, and upon the 30th of March, 1874, about 11 years afterwards, was delivered of her first and only child, dead at the time of its birth. Upon Saturday morning, the 28th of March, 1874, labor first began; slight pains were present during the day, which, becoming more severe towards evening, Dr. M. was sent for; the Dr., after examination, reported a head presentation, and natural, the head being in the superior strait and occupying the pelvis: everything was promising except that the labor was progressing slowly. About 2 or 3 o'clock Sunday morning, progress being still far from satisfactory, Dr. M. administered at short intervals two or three doses of fluid ext. of ergot, with the effect of greatly increasing the pain and suffering but without advancing the labor. Dr. W. was called in consultation in the afternoon, and he advised further doses of ergot, which were accordingly given at three different times, in the form of tea made from the powder; as before, the pain and suffering were greatly increased with no corresponding advancement in labor; the head, which continued low down in the pelvis, remaining nearly stationary. During the evening Dr. G. was also sent for, and, after consultation, it was agreed to cease for the time all active measures, and procure, if possible, by means of an opiate, a good night's rest. This course, although it did not produce sleep, had the effect of easing the pain and making the patient comparatively comfortable. Upon Monday, at 9½ A. M., the pains were renewed, at first they were high up and inefficient, until in the afternoon, having settled lower down, they became harder with a more bearing down feeling, or, as she expressed it, more as it seemed to her like natural labor pains. About 4 o'clock P. M., after a series of pains of this character, she gave birth to a child; the child however was dead, the body much decomposed and very offensive, so much so that the mother, Mrs. F., was probably mistaken in thinking that death had taken place only some thirty hours before.

Soon after the birth of the child Mrs. F. found that her urine and fæces passed from her involuntarily; the whole perineum and pelvic organs being temporarily paralyzed and devoid of all retaining power; an involuntary dribbling of urine, accompanied with much pain, continued for some two weeks before the existence of a new passage was discovered; even then a catheter was not used until some weeks later, and not until some fruitless efforts had been made to effect a healing of the fistula. The power of bearing naturally down during a passage from the bowels was not recovered for some five weeks. The scar from the rupture or tear in the perineum, which had healed only partially and slowly, being still plainly visible.

The above contains the substance of her statement to me, upon the 6th of May, 8174, at the time she first sought my advice, being some five weeks and two days from the time of her confinement.

At this time I found her weak and prostrated from the effects of her sickness and injuries. The denuded parts around the fistula and the tear or laceration in the perineum were still unhealed—the parts also near the seat of the fistula were so rolled up and kinked in as to obstruct the flow of urine, and necessitate the constant use of the catheter.

After remaining a few days she went home by my advice, to remain until she had become stronger, and until the wounds had become entirely healed. She returned again in July much improved and ready for an operation, but owing to the warmth of the weather and the consequent increased liability to sickness, she was persuaded to postpone the matter until cooler weather. She did not again return until the 23rd of September, and upon the 29th, at 11 A. M., I operated to close the fistula between the vagina and urethra, assisted by Drs. Todd, Hupp, Hullihen, and Wingerter.

The patient was placed on her left side, in the position recommended by Sims; chloroform was given, the speculum introduced into the vagina, and a polished pine bougie inserted into the urethra, across the fissure and sulcus, into the bladder. The mucous membrane and the scar tissue on the anterior surface of the fissure were then carefully pared off, care being taken to make the denuded surfaces broad, and to extend out through the scar on the sides of the fissure. The posterior surface was then trimmed and pared with the knife and scissors. The fissure under the pubis and near the neck of the bladder now measured, when prepared for closing, over two inches in length; it was brought together and thoroughly closed with seven silver sutures. After their adjustment a flexible gum catheter was introduced in place of the pine bougie used to prevent injury to the edge of the knife, as well as to keep the parts spread open while paring the surfaces that were to be united together.

The patient was placed in bed before consciousness returned. By evening she was quite lively, and comfortable. She informed me the next morning, that during the night she had been quite sick, and had vomited several times; this sickness and nausea continued for three days, a much longer time than is usual from the effects of chloroform. From this time forth the case progressed without any bad symptoms, the wound closing completely by first intention, without inflammation or trouble of any kind. On the 9th of October, three of the sutures were removed, and on the 15th, the remaining four. Upon the 18th day of October, the urine flowed naturally and easily, without the use of the catheter, and on the 20th she returned home feeling herself well and cured. During the process of healing, her husband attended to the catheter, taking it out and returning it, and attending to matters in general. His several months previous practice had rendered him quite efficient in this specialty.

In this case the laceration of the perineum had naturally been so well repaired and closed, that treatment was unnecessary, and, generally speaking, small lacerations of this kind will get well of themselves. In the large and more serious lacerations, closure should not be attempted at the time of the accident, nor until the patient, having passed the critical period, has recovered health and strength, and the injured parts have at least partially healed. No prudent practitioner (although the procedure has been recommended) would, I think, add to the original shock of protracted and severe labor the additional risks to be feared from pain, exposure to cold, worry of body and excitement of mind, necessarily incident to that operation.

I have given this case in detail, not so much on account of any special surgical importance, but more for the purpose of making a few suggestions in regard to the general management of this class of cases. I regard the ability to properly conduct and safely manage these trying cases of labor, of far greater value and importance, than that surgical dexterity that can only repair, and often most inadequately, injuries already inflicted.

In considering the history of a case like Mrs. F.'s. the query naturally arises, could the result reached have been avoided? and, if so, in what manner, or by what course of management?

Laceration of the perineum is an accident liable to happen under many circumstances, and sometimes cannot be avoided; but I am strongly inclined to believe that the formation of the fistula in this case could have been avoided. Briefly reviewing the facts of the case, we find that the patient was a small, compactly built woman, near 35 years of age, of good health and constitution, usual weight ninety-six pounds, with a pelvis like her body, small; that it was her first pregnancy and confinement after being married eleven years; that labor pains began early on the morning of the 28th of March; that the child was born at 4 o'clock P. M., on the 30th, making the labor one lasting within a few hours of three days from its commencement to its termination; that the presentation was natural; that ergot was administered until the full effects of this powerful drug were exhibited.

I cannot but believe, with these facts before me, that in this labor, slow and tedious as it was, had ergot not been employed, and had time been given for relaxation to take place, and nature to properly execute her office, ultimate safe delivery would have been accomplished. On many occasions ergot is a safe and valuable medicine, but in cases like the above it often proves the reverse.

In this class of cases my method is, first to satisfy myself that the presentation is natural and that everything is right; then, after seeing that the bowels are well opened, and the system in good order, I endeavor to quiet the fears of the patient by informing her that her present pains are only preparatory for the final effort, and I do little besides this, save keeping a general watch of the case for a day or two, more or less. Some such course as this, gaining time, and waiting until nature was fully ready, would probably have conducted Mrs. F. safely through her labor, and preserved the life of the child, supposing that it was still alive and in good condition when labor commenced.

In the final treatment of such cases, I have found opiates to procure a period of rest from suffering, and sometimes chloroform to produce relaxation in the last stages, exceedingly useful. Where the child is dead, as seems to have been concluded in Mrs. F.'s case, I puncture the head, and, introducing my forefinger, which I find better serves the purpose of a blunt hook than one made of steel, I carefully work out some of the contents of the cranium, then gradually elongating the head into the shape of a cone, and diminishing as greatly as possible its transverse diameters, I finally effect delivery. This method of procedure avoids all parade and display of instruments, and all trouble of changing the position of the patient ; the child being often delivered, and all customary duties attended to without the patient's being aware that she has been in a critical condition, or even that anything unusual has been going on. In cases where the child is actually dead, the course just indicated is the most practicable, and promises the greatest ease and safety to the mother, and the least probability of a slough ending in a fistula. Many of the sloughs occurring about the bladder, urethra and vagina are occasioned primarily by injury of the bladder or urethra from pressure, or from such other cause as is sufficient to break the tissues, so as to allow the urine to escape through the coats of the bladder into the cellular tissue, between the bladder and vagina and spreading from thence occasion sloughing in large sections of the walls of the vagina, bladder or urethra.

In Mrs. F.'s case there seems to have been a severe straining, and perhaps a slight spreading open of the symphises pubes. A feeling of weakness, and a noticeable enlargement in this region have continued since her labor. The pelvis being small, it is probable that the straining and spreading that took place resulted from the severe pressure of the head of the child, caused by being steadily wedged and forced down for near three days into the pelvic cavity, under the influence of severe labor pains—pains, it must be remembered, that were increased and intensified by the action of ergot, given at two different periods.

In this case forceps could not have been safely used on account of the too close packing of the head of the child to allow of their application and use, without danger of injuring the soft parts of the mother contained in the pelvis, and of increasing largely laceration of the perineum.

I recall a case that occurred in my earliest years of practice, in which forceps were applied by a physician of large experience and long practice. The head of the child was so closely impacted in the pelvis that the blades could not be properly fitted without doing violence to the soft parts of the mother, consequently in the efforts to deliver, in addition to severe injuries inflicted in the vagina, a good portion of the inner surfaces of the rami of both pubic bones were scraped bare.

Many serious injuries of the pelvic organs happen in this way, which afterwards are neither much discussed by those under whose management they occur, nor detailed at length in the pages of some medical journal for warning and instruction

Nor can it with truth be said that these accidents are confined to the ignorant and inexperienced in our profession ; they have happened, under my own observation, with practitioners of high standing and long experience.

Extent of knowledge and length of practice are not the only requisites needed, to safely and judiciously employ this often formidable instrument. In times of confusion and excitement, in the midst of cries of distress, with appeals coming from all sides to make haste and do something, it is essential that the medical attendant possess an even and well balanced temperament, perfect self control, and the qualities of promptness and of decision.

An unsteady or wrongly directed movement, the slightest error of judgment or lack of discretion, may inflict irreparable injury upon the patient before him.

There are a class of men in our profession, (would they were fewer,) often constituting the popular oracles of the day, whose peculiar and especial hobby seems to consist in attempting improvements upon one of the oldest of fashions, the fashion of giving birth to children ; these gentlemen constantly overflow with fears about the weakness and fast failing strength of the parturient woman, and are always in hot hasts to terminate labor before *her strength is too far gone, or before it has entirely given way.* In their opinion the female is not made sufficiently perfect to accomplish the duties assigned her by the Creator, and they hesitate not to boldly offer their suggestions of improvement. These are the brilliant and enthusiastic doctors who boast that they are not afraid to take the responsibility, and who push right past all precedent, all custom and all analogy to accomplish their end. This end, when an unhappy one, which is too often the case, is of course demonstrated to the satisfaction of their admirers to be not the result of their interference, but as solely chargable to the unusual and terrible nature of the case.

How often in such cases as these would the result have been different, had the patient been left a few hours to nature to do her own work in her own time, and in her own way.

The real office of the physician is to be ever on the watch, and when nature fails in accomplishing her ends alone (which happens but rarely), to afford her suitable aid, by blood letting, by opium, by chloroform, by ergot, by laxatives, by injections, by changing child's position, by instruments, or by such other means as the necessities of the case may require. This is his true vocation, and is the very opposite of that officiousness, which, acting on the presumption that woman is but imperfectly made, is ever ready to offer the latest fashionable improvement, and to suggest the newest scientific assistance.

A short time since I had a patient, of full habit, in labor with a large child. She complained of a sharp and severe headache, with much pain in the breast, occasioning vertigo, the face at times becoming almost purple in hue. After being in labor some twenty-four hours, (six hours of hard labor), she was seized with convulsions. This was a case in which forceps could have been used only with the greatest difficulty and danger. The os uteri was not dilated much larger in size than a silver dollar, while the fœtal head was closely packed in the pelvis, and only slowly moulding and elongating into a shape in which it could pass through the bones of the pelvis. In this unpromising case two bleedings, one of a quart, and in half an hour another of a pint, causing the patient to turn pale, to yawn and gape, stopped the convulsions, the pain in the head and breast, and so relaxed the whole system that the labor seemed at once to take on a new and fresh impulse. In six hours time it was concluded ; during all this time she experienced severe labor pains, but she passed safely through the trial, and made a quicker and better recovery than in any previous labor.

It is true I have not been equally successful in all cases of puerperal convulsions. In the case just narrated, the treatment and the result were truly satisfactory ; I would not hesitate to repeat the same treatment in similar cases and under similar circumstances—or what would perhaps be better, I would bleed liberally, and give a free laxative some little time before labor set in.

The first case of puerperal convulsions I ever saw came under my care some one or two years after I came to Wheeling. The patient was the wife of Joseph Pollock, Esq., then a resident and prominent citizen of this place. Towards the close of pregnancy the attack was ushered in with spasms, slight at first, but which grew stronger until she was finally seized with severe convulsions, becoming insensible and remaining so for over two days.

I saw her first soon after the occurrence of the slight spasms, and when she was suffering from fever, headache, etc. I bled moderately, gave laxatives, diaphoretics, and antispasmodics, but the spasms continued to increase in force and frequency until the convulsions became general, and entire insensibility supervened.

This lady, besides being my patient, was a valued friend, and I was most solicitous to afford her all the aid I could. The late Dr. Clemens, at that time my partner, saw the case in conjunction with me, but suggested nothing new in the way of treatment. I was greatly perplexed with seeking a possible remedy for my patient; books, lectures, reading (experience I had none), all seemed valueless.

At that day blood letting was not one of the "lost arts," but was regarded as the great panacea. Medical professors filled their lectures with recitals of its virtues, one of them, Prof. Gallop, of Vt., I remember, even extolled it as a sure cure for consumption.

Bleeding, to be beneficial in extreme cases, it was urged, must be carried to the point of relief or syncope. Recalling all these facts, I determined to give blood-letting a full trial in this case, for I had in my own mind given up my patient to die. At my next visit I opened a vein in the arm, and allowed the blood to flow until an ordinary sized wash basin was half filled; although pallor supervened, no other change was perceptible. I allowed the blood to flow on, determined to try the virtues of the remedy to the very last extent. In a short time she relaxed and sank into a state of perfect syncope, presenting a corpse like aspect, her pulse and breathing being imperceptible. Sprinkling the face with cold water, removing the pillows and placing the body so as to invite a return of blood to the brain, caused in a short time signs of life to re-appear. Her eyes opened, her look became intelligent, and she inquired the reason of my presence there.

That look and that expression lifted a heavy weight from my breast, and like the patient before me I felt like a new person. No act of my life before or since ever brought with it more sincere satisfaction, and it has served to indellibly impress upon my mind the great power and value of this remedy.

It was the custom forty years ago to frequently bleed patients, as we used to say, to the point of relief or syncope, and I must say that while never knowing any serious injury being occasioned thereby, that I have in different cases strongly suspected that death supervened by reason of its non-employment. This case of Mr. Pollock's occurred long since, in my first years of practice, and might never have been recalled had not the case of convulsions just detailed presented points of resemblance so strong as to forcibly suggest it.

A few words more will close up what I have to say on the subject of injuries of the vagina and perineum.

Injuries in the region often occur which neither the patient nor the physician discovers or suspects. These, that best of physicians "*vis Medicatrix Naturæ*," often cures marvellously well; covering up the bad work of the doctors, she proclaims by her successes the superiority of *Nature* over *Art*.

RUPTURED UTERUS.

Upon the morning of Sept. 24th, 1874, I called to see, in consultation with Dr. J. M. Todd, of Bridgeport, Mrs. James Freely, residing in Ohio, some seven miles from Wheeling, then in labor with her seventh child. Upon my arrival about 10 A. M., I obtained from Dr. Todd substantially the following facts in the history of Mrs. F. She was a strong muscular woman, thirty-three years of age, of bilious temperament, with a large amount of adipose tissue; had been married eleven years, during which time at regular intervals she was delivered of a child. The first and second of her labors, although severe and protracted, were accomplished without instrumental aid, both children however dying at the time of birth; of the remaining five labors, excepting the third, when the child died of spasms after living three weeks, all the children were dead when born. Her sixth labor, which was typical of all her previous ones, and which was conducted by Dr. Todd, began normally, and in the start promised to be more than usually active. After four hours the waters escaped, and the parts were left in a good condition for the safe delivery of the child with a vertex presentation. As time passed her pains grew steadily more violent, but although exceedingly severe and constant they caused no perceptible advancement in the labor, and it soon became evident that these violent contractions were confined to the circular fibres of the uterus. This peculiarity had been noticed by every physician who had seen Mrs. F. in previous labors. But little benefit resulted from a liberal venesection, followed by moderate and repeated doses of ergot. For twelve hours, intense labor pains recurred every five minutes, the severity of which were evident from the livid and swollen face of the patient, and her piteous appeals for help. Finally, the head having descended just far enough to be grasped with difficulty by the forceps, she was delivered of a large well shaped dead born boy. Her recovery was rapid and perfect. The expulsive power of the labor pains were never perceptible to the touch from first to last, and it was frequently remarked by Mrs. F., that during her confinement all attempts to ascertain the force of the pain by touch only caused the head of the child to sensibly recede. The above contains all the facts noted in her first six labors. Before proceeding to speak of her seventh and last it may be well to add a few other particulars that may be interesting.

The mother of Mrs. F. was like her daughter, a large muscular woman and quite fleshy; she had borne five living children after severe and protracted labors, in all of which delivery was finally accomplished with instruments. The peculiarity of the contraction of the circular uterine fibres before mentioned in Mrs. F.'s case had also been a noticeable feature in the history of the mother. Of Mrs. Freeley's three sisters, one only, a little frail woman weighing ninety-seven pounds, became a mother, and she gave birth to four children in easy and natural labors.

On the 10th of Sept. last, Mrs. F., then in daily anticipation of being again confined, complained of general prostration and a decided tendency to dysentery; injections of laudanum and tannin gave relief, but a sense of great distress, a feeling of smothering while lying down, still remained.

Her eyes had a distressed and anxious appearance, and her countenance strongly indicated that some unusually serious trouble was affecting her health and depressing her spirits. After the disappearance of the dysentery, however, she remained comparatively comfortable until on the 19th of Sept. Dr. Todd, who had attended her in two previous labors, was summoned. Upon his arrival about noon he found her in severe labor, which had commenced six hours before, with pains recurring at intervals of about ten minutes. An examination revealed a condition of affairs similar to what had before been observed under like circumstances, with the exception perhaps of a little better promise of a more than usually expeditious delivery. It was soon discovered, as the labor progressed, that the uterine contractions were (as had invariably been observed before) confined to the circular fibres or structure of the uterus. All ordinary expedients were resorted to without avail to induce more energetic propulsive efforts. The fœtal head was advancing slowly, and from being just discernible was beginning to emerge well into the superior strait, where its further progress was arrested. At 2 o'clock, P. M., an ordinary dose of ergot was administered, and repeated about every three hours until four doses were given, with the hope of arousing more desirable uterine efforts. As on previous like occasions no marked effect resulted from the drug, excepting possibly a very slight advancement of the labor. With the view of being prepared for any impending emergency, Dr. Todd decided to send for his instruments, resolved, however, in view of past instrumental experience in this case, to delay their use as long as a ray of hope remained of the child's being born unassisted. A heavy thunder storm of wind and rain coming up and lasting all night, delayed his purpose. Mrs. F. all the while persisted in saying that the child was living; after developments however proved that it had been dead for some weeks. An examination by ear was precluded by the thick layer of adipose over the abdominal walls. In her labors, the child had always been large, and this great deposit of fat was one of the causes hindering and impeding natural delivery. The agonizing cries of the patient in the meantime continued until midnight, when she suddenly complained of a violent sharp pain and a giving way just below the stomach. From that moment all uterine effort ceased, and becoming at once weak and pale she gave every indication of sinking rapidly. Upon examination it was found that the fœtal head had receded out of reach. She was given an opiate which procured some hours comfortable sleep. During the after part of the night and next morning there was a rather profuse discharge of blood, and of blood and water. In the morning Dr. Todd, who had never during the night left the patient, sent me a note requesting my immediate presence in consultation. Recognizing the gravity of the case, he was unwilling to interfere until by the help of instruments and competent assistance he could do so to some purpose. No single individual, however skillful, could discharge well and efficiently all the various duties required in such an emergency. Hence a short delay under the circumstances was not only not more dangerous, but wise and proper.

Having carefully heard the above interesting and full particulars of the case I proceeded to make an examination. I found the vagina empty, the mouth of the womb high up and open, and no signs of the fœtal head; insinuating my fingers and finally my hand through the orifice of the womb, I at once became aware, from the presence of folds of intestine, that my hand was in the abdominal cavity. I first recognized the placenta lying loose in the lower part of that cavity, with the cord and its serous surface, lowest and nearest to the mouth of the womb. After removing them carefully through the mouth of the ruptured womb and vagina, I used the cord as a guide to the body of the child, which I found placed obliquely across the abdomen, head to the left side, breech more elevated and to the right, while the belly by the traction of the cord inclined to the brim of the pelvis; the hands could be felt towards the left, but it was not until my hand and arm had passed up to within a few inches of the elbow, that the feet were found. Seizing one foot and making traction downwards I found that my hand had grown so fatigued that I could not retain a hold sufficiently firm to enable me to secure it with a noose. Dr. Todd therefore took my place, and by our joint efforts, after I had prepared a strip of muslin, we succeeded in making it fast around the ankle—the other foot was soon found and secured in the same way. We were thus enabled to make steady and judicious traction. Having delivered the body, which was now effected with but little difficulty, we discovered that the child had been dead several days, perhaps weeks, the flesh being soft and easily torn, the cuticle rubbing off in handling, and rendering the body useless as a means of traction. We judged it best to separate the trunk from the head, thereby enabling us to open the cranium, and by removing sufficient contents to diminish its diameters, so as to render its removal easy and expeditious. Placing both hands over the pubes and over and around the head, and gradually forcing it down into the superior strait, I was enabled to retain a firm and steady hold, while Dr. Todd after making an opening with the perforator through the cranium and working out a portion of the contents, introduced his finger and using it as a blunt hook, was enabled by steady traction from below, assisted by continued and firm pressure on the head above, to gradually work the head into the cavity of the pelvis, and finally to effect its complete delivery. Except by an incision through the abdominal walls I think this result could not have been reached by any other means.

The uterus through the abdominal walls should always be held firmly, and an even and well directed pressure exerted upon it by an intelligent assistant, thereby preventing injury to uterine attachments, whenever it becomes necessary to introduce a hand or arm into that cavity to search for feet or to perform other manipulations. Where the labor is not rapidly finished by uterine efforts, this proceeding should never be omitted in cases of delivery by the feet, thereby rendering unnecessary much traction by the neck, which is always dangerous to the child. In these cases, moreover, there exists a tendency in the head to turn, and getting out of the line of the axis of the pelvis, become caught on the pelvic brim, making delivery tedious and troublesome.

In the case of Mrs. F. these difficulties existed to an unusual degree; the head being in the cavity of the abdomen, there was not the least contractile power to assist in pressing it down to its proper place and hasten delivery. After the removal of the head I introduced my hand, and found the vaginal portion of the uterus nearly natural; above was discovered a firm, irregular, flattened mass, while still higher up was found another very similar mass, hard and irregular; these, without doubt, were portions of the ruptured and contracted uterus, and indicated that the rupture had taken place on the left side and front, and that its upper and right half were thrown over and occupied the right side of the abdomen, constituting a contracted mass about equal in size to the lower portion next to the vagina. It is not to be wondered at that the fatigue, loss of blood and nervous prostration consequent upon her protracted suffering, left the patient much exhausted. Setting aside, however, the discharge of fœtid blood and water that escaped in considerable quantities during the delivery of the placenta and of the child, but little active hemorrhage occurred. After being put comfortably to bed, and after taking some cordials and a little food, she seemed considerably revived, and expressed herself as feeling quite easy; her pulse and general powers rallied to such an extent that hopes of a favorable result began to be entertained. Such was the state of affairs when I left her. Dr. Todd, who remained with the case, states that after continuing for a time quiet and apparently comfortable, she was suddenly seized with a passionate desire to be removed to her old home, active delirium at once set in, she became pale and pulseless, her brow was covered with a cold clammy sweat, until finally, at 6 o'clock P. M. death relieved her from her suffering. This case of Mrs. Freely's is a striking and marked example of rupture of the uterus. In the practice of other physicians I had before seen perhaps two or three instances of what seemed to be rupture, or partial rupture, but nothing approaching in interest or in completeness of detail this present case. It was a subject of much regret to Dr. Todd and myself that we were unable to hold a post mortem. A sufficient number of facts and details however are before us to make it a subject of interesting inquiry whether or not a different method of treatment to the one pursued would have resulted more successfully. First : the fact must be remembered, (noticed by Dr. Todd and all other physicians who had attended Mrs. F. in her different labors,) that there existed an organic weakness or fault in the circular muscular fibres of the uterus—a weakness which, existing also in her mother, was doubtless hereditary—joined to this hereditary weakness was the more or less great additional impairment of the function of the uterine fibres, caused by the weight of a dead child, borne probably for some weeks. Further, it must be recollected that she was a large muscular woman, who had given birth to six children, all born dead save one, which died after a brief existence of three weeks. It must not be forgotten also, that bloodletting, forceps, ergot and patient waiting on the efforts of nature had all failed to a greater or less extent in her different confinements. In addition to all this, the great amount of adipose under which Mrs. F. labored must not be lost sight of, and which aided in diminishing the capacity of the pelvis, making labor tedious and difficult even under the most favorable circumstances. Remembering all these facts, a prognosis in Mrs. F.'s. case could not have been other than gloomy.

Had the death of the child been positively ascertained, the case would have been resolved at once into one of craniotomy, perforating and removing sufficient of the contents of the cranium to permit a contraction of its diameters, and then with the finger used as a blunt hook, and other additional power if needed — employing traction until delivery was effected. Had danger of rupture been anticipated, the forceps or the perforator, or both combined, would have been employed as soon as the head could have been reached, without reference to whether the child was alive or dead, the safety of the mother being of paramount importance. Had danger of rupture been suspected, I presume ergot would not have been given, but instead, free bleeding, chloroform, perforation of the head and delivery at the earliest possible moment.

Selections.

CEREBRAL SYPHILIS.

Prof. H. C. Wood, in the Philadelphia *Medical Times*, published the following lecture (delivered at the University Hospital) on the Prognosis and Treatment of Cerebral Syphilis. In a former number we republished his remarks on the diagnosis of this affection :

" In my last lecture the subject of cerebral syphilis was studied from a diagnostic point of view ; to-day I shall direct your attention chiefly to the prognosis and treatment of the malady. To be able to give a correct idea of the future of my individual case of disease, it is necessary to have a knowledge of the usual course of the affection. Cerebral syphilis is for the most part a chronic disorder, which, when left to itself, eventuates almost without exception in death, but when properly treated usually yields rapidly to remedies. The prospect of success in any case depends, of course, very largely upon the stage at which it is first seen ; but it is remarkable how much of serious organic destruction assisted nature will often restore. Headaches the most violent and persistent will fade away, paralysis complete and extensive will disappear, mental failures and aberrations of most marked type will yield, and the wreck of a man be restored to the full glories of American citizenship. Still there are patients in whom the greatest skill fails ; and the important question is—Can we distinguish the tractable from the intractable cases? Not always can this be done, but the general experience certainly warrants the clinical rule—always give a very guarded prognosis where the symptoms of cerebral syphilis are coincident with those of syphilitic cachexia. When cachexia does not exist a bright future should be predicted, unless there is evidence of total destruction of important portions of the cerebral centers.

" Experience has, however, taught me that a favorable prognosis should not be made with absoluteness, on account of the danger of some of the symptoms or accidents of the disease, and on account of the occasional occurrence of grave and even fatal acute exacerbations. I remember a case of cerebral syphilis seen in consultation, in which one of the most notable symptoms was epilepsy. I stated unhesitatingly that the patient would get well, and was seemingly justified by the rapid progress of the case toward health, until one day this progress was unfortunately impeded by an epileptic spasm, in which, the suspension of respiration lasting a moment too long, asphyxia occurred. After death we found small gummata in the pia mater at the base of the brain, and also in the velum interpositum, with inflammation and softening of the pons in the neighborhood of one of the tumors. The influence which acute exacerbations exert upon the prognosis, and the still greater influence they have upon the treatment, justify their consideration here in some detail. Nervous syphilis is, as I have already stated, essentially a chronic disorder, and yet it may at any time take upon itself a most acute type. Some of you may remember a man suffering from partial aphasia, violent headaches, failure of memory, etc., who presented himself on a Monday last spring at our clinic. The history of syphilis was distinct, and the diagnosis, so far as cerebral syphilis was concerned, was plain. The same night the unfortunate patient was seized at home with a violent convulsion A neighboring practitioner was called in, and notwithstanding the past history, the present unconscousness, the wild delirium, with screaming that echoed through the house, and fighting that it took three men to control, diagnosed strychnia-poisoning, and told the friends that no doubt the doctors at the hospital meant well, but that they had overestimated the patient's strength, and had given a dose of strychnia which was too large for him in his weak condition. The strychnia-poison treatment was earnestly kept up until the next Friday, when the medical man in charge, beginning to suspect that something was awry, dispatched a note to me, stating that he had a patient of mine suffering from symptoms of strychnia-poisoning. It was, of course, too late for treatment to be of any avail ; and the autopsy showed, what was almost equally evident during life, that the cause of death was an acute meningitis grafted upon a chronic syphilitic inflammation of the cerebral membranes.

" Not only may an acute attack supervene upon a chronic cerebral syphilis, but the disease may in the outset be of the most acute character. Perhaps, however, in this statement I am going a little too far. It may be that a gummata has in these cases been lying concealed. Whether this is or is not the case I have no evidence to decide, but certainly so far as symptoms are concerned the attack may be most sudden and acute. Some years since I saw, in consultation with Dr. Fricke, a case of this character, which I shall narrate directly, as it portrays not only the occasional acute character of the disorder, but also the proper method of treatment in such cases.

" What, then, ought to be the treatment of an acute cerebral syphilis? Very much that of an acute, non-specific, cerebral attack of similar type.

If there be a violent epilepsy, with the epileptic status, nitrite of amyl, anæsthetics, antispasmodics, and other usual remedies should be employed. If the pulse, the fever, the *tout ensemble* of symptoms, indicate intense cerebral congestion or cerebritis, free venesection should be used. In any case of doubt you should remember that it is far safer to bleed in specific epilepsy than in a threatening similar attack of non specific character, because in the latter case there is little hope of removing the cause, while in the syphilitic patient there is every reason to believe that, if time be gained, remedies will remove the disorder. Violent specific meningitis should receive the same treatment as the non-specific disorder ; bleeding (local and general), blistering, and mercury. In the previously mentioned case of acute meningitis supervening upon the chronic disease the man should have been bled at once *ad deliquium*. If he had been set up in bed, a large orifice made, and the blood allowed to pour forth until syncope came on, very probably to-day he would have been alive, and a well man.

"In Dr. Friske's case the man, who believed himself to be in perfect health, felt very wretched and heavy one afternoon while out attending to business, and returning home sat down in his shop. He soon became semiunconscious, and was helped up-stairs to bed, and directly afterward was seized with severe convulsions and delirium. A homeopathic practitioner was sent for, and a couple of hours later, the convulsions becoming more and more violent, Dr. Fricke was summoned. He found the patient raving and furiously convulsed with both tetanic and clonic spasms. At first he employed the classic remedies of a mild character, such as assafetida clysters, counter irritation, etc. ; but the mustard plasters were kicked across the room, and doctor and syringe-pipe followed them with remarkable promptness. All the remedies simply redoubled the violence and frequency of the paroxysms ; their application was the signal for a furious outburst ; the least touch produced frightful contortions and spasms. Then the lancet was used, and when a quart of blood had flowed, quiet had been restored, and even the cheek of the bleeder began to blanch ; but Dr. Frick, with finger upon the pulse, ordered him to continue. When half a pint more had been taken the pulse began to fail very markedly, and the arm was bandaged.

"After an hour or so twitchings of the muscles and other symptoms indicative of a recurrence of the convulsions coming on, about a pint more of blood was taken from the temples by cupping, and the patient became as quiet as a sleeping infant. The next day he awoke, weak, but free from pain and out of present danger. The subsequent history of the case revealed the nature of the attack ; and when once the specific character was suspected, and the approprite remedies employed, a gradual restoration to health was effected.

"The treatment of chronic cerebral syphilis is essentially a simple one. It has been considered to consist simply in the free exhibition of iodide of potassium, and in the majority of instances this is true. In giving the iodide it should be remembered that syphilitic patients bear it in enormous doses ; that in many cases it seems to be both food and drink to them, the nourisher of physical well being and moral restoration ; that often, like the bromide in epilepsy, it is necessary for the patient to take it persistently for months and even years, even long after the disappearance of all symptoms. After trials of various methods it seems to me that its exhibition in simple water or in infusion of camomile affords the best method of giving it. Compound syrup of sarsaparilla certainly covers its taste better than any thing I have tried, but is apt to sicken the stomach. In regard to the dose, there is rarely any use in giving less than a drachm a day, and frequently a drachm and a half, and even two or three drachms, are well borne. My rule is to commence with fifteen grains four times a day, and rapidly increase the dose until symptoms of iodism are induced, or a daily amount of at least two drachms reached.

"I wish here to call your attention to the use of mercury in the disorder. I am convinced that it has come to be too much the custom to rely upon the iodide. When there is no cachexia, and therefore no contra-indication to mercury, it acts more quickly and even more effectually than the iodide, and in many cases the only objection to its use is prejudice.

"I have seen a syphilitic epilepsy, which had resisted the most heroic doses of the iodide, disappear like magic before a mild ptyalism. I usually employ the blue mass properly guarded with opium as one of the mildest and at the same time most efficient of the preparations; but it does not make much difference which form is selected; only remember this: Give the mercury boldly and persistently until ptyalism is induced, but give it cautiously; watch the mouth, and the moment the gums become the least sore reduce the dose, but do not withdraw the remedy altogether; keep the mouth a little sore for some days or weeks, as may be necessary.

"In regard to the use of counter-irritants, I have not employed them to any extent in chronic cerebral syphilis. They may be of value, especially in cases of meningitis, but they are very annoying, and in most cases you can get along without them."

ANIMAL PARASITES.

Professor Van Beneden, of the university of Louvain, France, has recently written an interesting little work entitled "Animal Parasites and Messmates," in which he has contrived to compress a great deal of curious information regarding a subject much more extended than the reader not versed in modern progress of natural history would suppose. He divides the strange creatures of which he treats into three classes: first, messmates, or those who join others to obtain a living, or a home, or protection; second, mutualists, or animals which live on each other without being either parasites or messmates; and third, the parasites, whose profession it is to live at the expense of their neighbors, and whose only employment consists of taking advantage of them, but prudently, so as not to endanger their lives.

While it would be impossible here to follow the writer in the numerous distinctions which he draws among the members of these different classes, it will perhaps prove intersting to note a few of the most odd and novel peculiarities of the creatures belonging to each. There is a fish, he tells us, called the *holothuria*, which is a living boarding-house for the *fierasfer*, an eel-like animal. The latter is lodged in the digestive tube of his companion, and, without any regard for the hospitality which he receives, seizes on his portion of all that enters. The angler or *beaudroie* of the Mediterranean often harbors, in the bronchial sac, a kind of eel, which is abundantly able to take care of itself, but prefers to live a life of idleness, and share its host's spoils. The shark is accompanied by the pilot fish, which does not, as is often reported, exist on the leavings of his larger companion, but on his own industry, and doubtless finds some advantage in piloting his neighbor.

Another remarkable fish, the *remora*, literally moors itself to the body of the shark, thus converting the latter into a vehicle which carries him about without exertion on his part. When he becomes hungry, he lets go and hunts for prey wherever he may happen to be. This tenacity of the remora in attaching itself is taken advantage of by the fishermen of Mozambique Channel, in order to capture turtles and large fish. They pass through the tail of the remora a ring to which a cord is attached, and then send it in pursuit of the first passer-by which they consider worthy to be caught. The fish holds on to its prey so firmly that it only remains to haul victim and captor in by the line.

There is a crab, of the family of the *maidæ*, which conceals itself in the substance of a polypidom; it is common in the Viti Islands, in company with a gasteropod mollusc, and both of them assume the exact color of the polypidom. This is a new kind of mimicry. Another crab appropriates a sea anemone to form a living cloak to hide it from view, in order that it may spring out from its ambush to attack prey. Remarkable marine creatures are the *birgi*, a kind of crustaceans which grow very large, and conceal their abdomens no longer in a shell, but in the crevices of rock. In the East Indies they remain on land, and even climb trees. They have so much strength in their pincers that it is related that one, while stretched on the branch of a tree, "raised a goat by the ears." A family of isopods are rather dangerous messmates, it would seem, for they cut into the walls of their host's stomach and live like Sybarites on its contents.

The most interesting fixed messmates are the cirrhipedes, which covers the skins of whales, which they never quit after once choosing their abode. Each whale lodges a peculiar species; so that the crustacean messmate is a true flag, which indicates, in some respect, the nationality. It would not be without interest for voyagers who are naturalists to study these living flags.

Among the mutualists may be mentioned the ticks, one generic division of which has twenty species, one of which lives on the dog, another on the cat, and another on the ox. Fishes harbor crustaceans instead of ticks, and these sometimes multiply so rapidly that they cover their post as though they took the place of scales. The cod gives lodging to a species of very beautiful shape, which in its turn affords a resting place for a still smaller organism. In the midst of the eggs of the lobster there lives an animal of extreme agility, which our author considers the most extraordinary being ever subjected to the eyes of a zoologist.. "Let us," he says, "imagine a clown in a circus with his limbs as far dislocated as possible, displaying tricks of strength and agility on a heap of monster cannon balls which he struggles to surmount; placing one foot formed like an air bubble on one ball, the other foot on another, alternately balancing and extending his body, folding his limbs on each other, or bending his body upwards like a caterpillar; and then we shall have but an imperfect idea of the attitudes which it assumes, and which it varies incessantly."

There is no organ which is sheltered from the invasion of parasites, even in man, *cysticerci* have been found in the interior of the lobes of the brain, in the eyeball, in the heart, and in the substance of the bones, as well as in the spinal marrow. Each kind of worm has also its favorite place; and if it has not the chance of getting there, in order to undergo its changes, it will perish rather than emigrate to a situation which is not suitable to it. One kind of worm inhabits the digestive passages; another occupies the *fossa* of the nose; a third, the liver or the kidneys. Each animal has its proper parasites, which can only live in animals having affinity to their peculiar host. Thus the *ascaris mystax*, the guest of the domestic cat, lives in different species of *felis*, while the fox, so nearly resembling in appearance the wolf and the dog, never entertains the *tænia serrata*, so common to the latter animal. The same host does not always harbor the same worms in different regions of the globe. Thus the large tapeworm of man, called *bothriocephalus*, is found only in Russia, Poland and Switzerland; a small tapeworm, the *tænia nana*, is observed nowhere except in Abysinia, and, strange to say, the natives consider their absence from the body a sign of ill health; the *anchylostoma* is known only in the south of Europe and in the north of Africa; the *filaria* of Medina in the east and west of Africa; and the *Bilharzia*, a terrible worm, has been found only in Egypt.—*ScientificAmericau.*

THE GIRL OF THE PERIOD.

If it were not a question of such grave moment, the desire to present the ludicrous phase of this subject might be gratified. For surely nothing can be more amusing than the self-satisfied air with which the young lady of to-day trips lightly forth from the modern boarding-school and views, with profound commiseration, not unmingled with disdain, the uncultivated and ignorant masses who agonize so many leagues beneath the unapproachable heights which she has attained. What intricate problems she has solved! What complicated mysteries she has unraveled! With what profoundness she grasps the vital questions that agitate church and state! How clear are her conceptions of the true civil policy of the government, or the attitude which the church should assume with regard to ritualism! She will talk to you of Ruskins' latest strain, or discourse philosophically upon Carlyle's newest idea, as though she had been on terms of extreme intimacy with those gentlemen. She is devoted to the Tennysonian school of poetry, having an especial fondness for the "Blue and Gold" editions, and has all the "unutterable longings for the infinite" that such companionship occasions. It may be, however, that her pretensions are not quite so exalted, and that she is content to move in a sphere having a closer proximity to the vulgar herd. Then some of the lesser stars are sure to be the object of her doting, for she is constitutionally compelled to dote on something. It may be that literature does not engage her attention. Then, doubtless, music is her idol and the piano her forte. If so, she "sits and sings herself away, to —— " a noteworthy amateur, at least.

The opera is so refining, so elevating; symphonies and oratories have the true spiritual culture; and Strauss and Wagner are destined to redeem the world. Perchance, drawing has most attractions for her artistic mind. Of course she is a *connoisseur*, and academies of design and art galleries are regularly graced by her presence. No one questions the fact that she is accomplished. Indeed, she may fitly represent all the graces. She is elegance personified. In fine, she is educated.

Does any one mildly suggest that something has been neglected? That surely some very important element has been overlooked? That there may possibly be household duties and domestic responsibilities which demand a reasonable degree of attention? That the parlor and drawing-room are not the only apartments in a well-ordered home? That while giving a due share of attention to what are known as the "accomplishments," it might be wise and thoughtful to acquire some means of gaining a livelihood in case of some reverse of fortune?

Is any one so recklessly inconsiderate as to affirm that if five-tenths of the young, fashionably-educated girls were left penniless they would go to ruin, or starvation of both body and soul? If so, let him keep his own counsel, for surely he belongs to a past and degenerate age. The ideas he advances have long since been exploded, and will not even be tolerated now.

We are living in a progressive age, and by the light of this new era we read that the old fashioned opinion that the sphere of woman was the home-circle cannot obtain in the minds of the progressive educators of to-day. She is to be fitted for a glorious destiny, far above and beyond that of a mere menial or household drudge. In fact, her organism is of too fine and delicate a nature to be contaminated by the gross and debasing influences of actual labor. Only the vulgar labor. Truly cultivated people never work. Then how incompatible with the true dignity and grace of womanhood that the young ladies of to-day should entertain, for a moment, the idea of being of any practical use to the world. Surely, no one can consider so unworthy a reflection, much less give it utterance. It is not written in the book of the Chronicles that to educate a girl is to divest her of whatever judgment or sense she may once have possessed? That, according to the popular idea, she should be burdened with nothing, supported by nothing, and good for nothing in general? That so far from knowing anything concerning the wonderful structure of the physical system, she should positively be taught to do violence to that same body by every conceivable abuse and contortion? That health was of no consequence whatever when the claims of fashion asserted themselves? That independence of thought and action upon these matters belonged exclusively to the eccentric? That these "proprieties" must be observed at all hazards? That the religion of the poor Nazarene means, to-day, an exhibition of one's personal property? That life is to be regarded as one long continued suffering from *ennui*, in which any available means are allowable by which to kill the time? That the great aim in the life of a dutiful daughter is to cost her father as much money as possible, her mother as much more anxiety, and be no earthly use to them, to herself, or to anybody else?

I believe, nevertheless, that the woman of the future will realize much of the expectancy of the past. I see about me a bounteous sisterhood of brave hearts and willing hands that are supporting every good cause in which they are engaged. I see the star of hopeful promise arise above womankind such as has not shone since that far-off night over Bethlehem's plain. I recognize, with sincerest joy, that there exists to-day the same spirit of holy reverence and faithful devotion as walked attendant upon the steps of the Man of Nazareth. I see in the garden of life no buds of richer promise, no flowers of more exquisite beauty than the young girls of to-day, who are lifting their glowing faces to the light of a lovelier womanhood, as morning lilies to the light of the rosy dawn. But I have no sympathy with the wretched pretensions of the modern boarding-school, nor with the ungainly deformity of mind and character which they produce. If there is any department of education where radical reform is needed it is here. For if women of this generation are but properly educated, the culture of the future need give us no apprehension whatever.

A REMARKABLE CASE OF HYDROCEPHALUS.

By J. W. Crenshaw, M. D., of Trigg County, Ky.

Read before the Trigg County Medical Society.

M. N. Rogers was born December 21, 1850, of healthy parents, the twelfth of a family of thirteen children. At birth he was a well-formed, fully developed child. Remained healthy, so the mother informed me, until he was two weeks old, when, without any seeming illness, had several convulsions, which continued at short intervals. Enlargement of the head was first noticed at the age of two months. Convulsions continued every few weeks until he was eight years old. At that period, notwithstanding enlargement of the head continued to increase, the convulsions suddenly ceased for six years. At the end of that time, or when he was fourteen years old, the spasms returned, and have continued to this date, never a longer time intervening than one month. His head now measures thirty-one inches antero-posterior circumference, and thirty-two and a half inches in perpendicular circumference. Has not enlarged any for five or six years, for which length of time the fontanels have been completely closed, and the scalp covered with a heavy suit of black hair. Has had, since quite young, sufficient intelligence to make known his wants to the family so that they readily understand him. Face presents a very youthful appearance, having little or no beard. His body and limbs have grown in length, but the muscular development and size is about what we generally find in a child five or six years old. There is very considerable curvature of the spine and contraction of the muscles of the legs, arms, feet, and hands. The hands, indeed, are so badly drawn that the palms of each rest upon the wrists and forearms. Has never been able to masticate his food, living on fluids exclusively. His teeth, the permanent set, having become decayed early in life, were extracted. Has never walked a step or even been able to support his head. For ten years, with a few exceptions, without any seeming paralysis of the bowels, or any portion of the body, his bowels have not moved without the use of the syringe. The instrument is now used about once in six days, and then often fails to provoke a discharge. So feeble is the action of the heart and the very great prominence given to the abdominal aorta by the extreme curvature of the spine, that the mother has been under the impression for years that the heart had been drawn from its natural position and was located on the right side below the ribs.

In some respects, this case is a remarkable one. In my investigations, which I admit have necessarily been limited, I have found but one case that exceeds this in the size of the head, that Professor Dickson gives in his work on Practice, as reported by Professor Eve, of Nashville. Dr. Eve's patient died at the age of fifteen years in convulsions. The case I now report is twenty-five years old past; has had good health excepting the convulsions; sleeping well at night, and appetite rarely failing him. What is most remarkable is the difficulty with which his bowels have been made to act, when we remember that the genital and urinary organs are well developed, and perform their function with ease and regularity; that he should live and continuously enjoy comparatively good health with the syringe used once in six days, often going to fourteen; that he should still retain the amount of intelligence he had at the age of fourteen years, having spasms every few days, are both remarkable facts. Why the spasms should have ceased at the age of eight years and returned at fourteen, the head in the meantime continuing to enlarge, is difficult to explain. While quite an infant, a number of physicians were consulted with regard to the propriety of an operation; among the number and in whose judgment the parents seemed to confide, was Dr. Isaac Burnett, then a prominent physician and politician of Southern Kentucky, and Dr. J. D. Landrum, now of Mayfield. They knowing the result generally in such cases, with the use of the trocar and canula, informed the parents that the benefit derived would probably be only temporary, and possibly the operation would result in death. This deterred the parents from operative interference.

The practical lesson I draw from the history of this case is, that if such a case should fall into the hands of any physician, with the improved advantages of this age, he would do himself, as well as his patient, very great injustice not to advise the use of the aspirator, followed by the elastic cap or bandage, and the administration of absorbents internally. This course of treatment could be pursued with the assurance to the patient and his friends, that if no other than temporary relief be obtained, no permanent harm would probably result.

THE TREATMENT OF RHEUMATISM BY SALICIN AND SALICYLIC ACID.

By T. Maclagan, M. D., Dundee.

As I am probably the only person who has experience of both salicin and salicylic acid in the treatment of acute rheumatism, perhaps (in connection with the article on their employment in that disease which appeared in the Journal of May 6th), I may be allowed space for a few remarks on the respective merits of these two remedies.

The impression left by the article is, that salicylic acid is preferable to salicin, and that the beneficial action of the latter is due to its being converted into the former in the blood. That is, perhaps, a natural conclusion for those who have been using salicylic acid ; but it is almost certainly erroneous. More probable it is that both are split up into some other substance which is the true remedial agency. A more accurate view of Senator's position would have been conveyed if it had been stated that he expresses a preference for salicin, though he does lean to the view that it is converted into salicylic acid in the blood.

But all this is mere hypothesis, and is of little importance, as compared with the question : Which is the better remedy, salicin or salicylic acid ? That each exercises a marvelous influence in cutting short an attack of acute rheumatism there can be no doubt. I have used salicin or salicylic acid in every case of acute rheumatism which has come under my care since November, 1874 (a year and a half), and invariably with the same result—a rapid cure of the disease. Seeing a patient suffering from acute rheumatism, I have no hesitation in assuring him that within forty-eight hours, possibly within twenty-four, he will be free from pain. That is a very different tale from any that can be told in connection with any other remedy.

Salicin is the remedy which I used first, but I have not confined myself to it. When salicylic acid was first recommended as a febrifuge, I determined to give it a trial in acute rheumatism. In the first case in which I used it ten grains were ordered every two hours. On seeing the patient after four doses had been taken, the general condition was a little better, but she complained much of the medicine " burning her throat." I urged her to continue it. This she did, and on the following morning the pain was less, and the temperatue had fallen from 102.3 to 101.1 ; but to the burning sensation in the throat was now added sickness. I omitted the salicylic acid, and gave the same dose of salicin, ten grains every two hours. The sickness ceased ; the burning sensation in the throat disappeared ; and by the following day the pain was entirely gone from the joints, and the temperature had fallen to 98.8. She made a good recovery.

This case well exemplifies what is the chief objection to salicylic acid—its tendency to produce irritation of the throat and stomach. I may have been unfortunate in my experience, but in every case in which I have given it this irritation has been complained of. All writers on the subject agree in referring to this irritation as one of its unpleasant effects. The salicylicate of soda seems to give rise to the same disagreeable symptom. Salicin, on the other hand, never gives rise to any unpleasant effects. I have prescribed it within the last year and a half in many different ailments, in doses ranging from five to thirty grains. I am probably within the mark when I say that I have thus given it to at least a hundred different people; and I can not recall a single instance in which any disagreeable effect was produced.

I have myself taken (by way of experiment) three doses of sixty grains—one in the forenoon, one in the afternoon, and one at night—without experiencing the least discomfort; but the smallest pinch of salicylic acid produces in me a feeling of heat and irritation in the throat, while a dose of ten grs. gives rise to gastric irritation and a most unpleasant burning sensation in the fauces.

Salicin is a pleasant bitter, and is best given mixed with a little water, flavored with syrup of orange, if desired. In adequate doses—say fifteen grains every two hours—it cuts short an attack of rheumatic fever without producing disagreeable effects. It should be continued in small doses during the first fortnight of convalescence.

As remedial agencies in acute rheumatism, salicin and salicylic acid seem to be equally efficacious; but the former has the advantage of producing no unpleasant effects. In time, too, it is sure to be much cheaper; a matter of some importance with a large class of sufferers from rheumatism.—*Brit. Med. Jour.*

MCMUNN'S ELIXIR OF OPIUM.

In answer to a correspondent inquiring the chemical constituents of this preparation, the *Pharmacist* publishes the following: "According to the late Prof. Procter (American *Journal of Pharmacy*, vol. xxiii, p. 212), 'McMunn's Elixir of Opium' contains meconate of morphia, hence is prepared by neutral solvents, so as not to disturb the natural state of combination in which the morphia exists. Of the long list of constituents of opium, those to which the unpleasant effects of laudanum are attributed are the odorous principle, resin, acid extractive, thebaina, and perhaps codeia and narcotina to some extent. With these points in view, Prof. Procter set about devising a formula for a liquid preparation of opium that would be free from the objectionable properties, and contain the morphia as a meconate. The results of his labors were published in the *Journal of Pharmacy*, volume xxiii, page 212; the formula he proposed possessed all the properties of McMunn's Elixir, and was subsequently found to yield a result identical with McMunn's Elixir. A recipe having been found among the papers of Dr. Chilton, believed to have been given by its inventor (see 'Wood and Bache's United States Dispensatory,' foot-note to 'Tinctura Opii,') the formula of Prof. Procter was adopted by the United States Codex, with a few slight changes, as Deodorized Tincture of Opium, and should be employed in all cases in place of McMunn's Elixir; it has the same opium strength as laudanum. The odorous principle and other noxious principles are removed; hence it does not produce the unpleasant effects of laudanum. For its physiological effect, and the *modus operandi* of its preparation, we refer you to the Dispensatory as above quoted. We are pleased to see this spirit of inquiry in our medical friend, and if more of his professional brethren would follow his example and studiously avoid remedies whose compositions they do not thoroughly undersand, there would be fewer of the valuable (?) remedies in use."

PUERPERAL SEPTICÆMIA.

By HUGH MILLER, M. D., Fellow Obst. London Soc.

Physician-Accoucheur to the Glasgow Maternity Hospital.

The following notes of an epidemic which attacked the patients in the hospital during the month of January last are submitted as a contribution to the recent interesting inquiry into the existence of puerperal fever as a zymotic disease. The confinements followed so closely one upon the other that six patients were brought under the influence of the infection before rigid measures could be adopted for stamping it out. I am indebted to Mr. Thompsom, the house surgeon, for the reports of the cases of which I present the following brief details:—

I.—M. C., aged twenty-four, was near her full time when admitted to the hospital on the 19th of January last. Eight years ago she was attacked by scarlatina, and since then she has been weakly and delicate. Her first confinement took place on 19th October, 1874. She was in labor, she says, for five days. The child was stillborn. Her recovery was favorable till the fifth day, when her left leg became swollen. Under treatment it improved, but it has felt weak, and has remained swollen since. During this pregnancy she has been almost free from any sympathetic derangement, and her general health continued good until two days ago, when she sustained a shock from a severe fall in the street. When admitted she was in labor, and on examination it was found that the head was presenting along with the funis. The cord was pulseless. Eighteen hours after admission she was delivered of a male child, still-born, and evidently of a syphilitic taint. After waiting two hours the placenta was found to be adherent. The usual means were employed for its removal, and it is believed that it was entirely taken away. During the next few hours the patient did well, and appeared as if making a good recovery. Without being preceded by a rigor, a sudden rise of temperature was observed fifteen hours after childbirth, and on examination it was found that the temperature was 103°, and that her pulse had risen from 90 to 160, and was dicrotous. She complained of severe pains in her legs and arms. The uterus had not enlarged and the lochial discharge continued. In my absence Dr. Sloan kindly saw her, and ordered her to have half a drop of the tincture of aconite (B. P.) every hour, and with the first dose to have also a mixture of sweet spirits of nitre with liquid acetatis ammonia. Next morning the temperature was 101° and the pulse 120. An erythematous rash was now observed over the lower limbs. She had no sore throat, but she complained of a harrassing laryngeal cough. Her tongue was furred and dry, but it did not present any specific febrile character. She was not aware of being near any case of scarlatina recently. Directions were given to have the diaphoretic mixture repeated with a dose of Batley's sedative liquid added to it. In the evening the temperature and the pulse were unaltered, but she felt more exhausted and was allowed small quantities of whisky at intervals. A solution of the chlorate of potass was given to allay thirst. Next morning at 8 A. M. the temperatnre was 99° and the pulse 96°. By the same evening her general condition had been greatly improved; with the exception of the cough, which was frequent and very harassing, she had nothing to complain of. The cough gradually improved under the use of tartar emetic and tincture of hyoscyamus. That night she slept well, and next morning the temperature was normal. The pulse was 90 and weak, and the patient expressed herself as feeling much improved. Next day she was free from any unusual condition, and two days afterward she was dismissed quite convalescent.

II—On the 20th, the next day, M. H. was admitted; she was confined that evening of a still-born child, which appeared to have been dead for some time. On the 22d I found her suffering from acute peritonitis, which did well under the treatment with turpentine stupes and Dover's powder. She left the hospital eight days after admission, quite recovered.

III.—On the same day A. B. had in every way an easy labor; next day she had a rigor followed by febrile excitement with pain over fundus uteri, and with a scanty and purulent discharge. The patient received similar treatment to that given in Case II., and, in addition, after a consultation with Dr. J. G. Wilson, the consulting physician of the hospital, we ordered the intra-uterine injection of a solution of chlorozone. On the 9th of February she had quite recovered, and left the hospital.

I directed that all the patients should now have the bisulphite of magnesia regularly. These three patients were in one ward, and new cases were to be placed in another room. The next case was admitted on the 24th of January.

IV.—A McD., a primipara, was the next case admitted. She was delivered of a still-born child. The placenta being retained was removed by introducing the hand forty-five minutes after the birth of the child. She was then removed to a freshly disinfected recovery yard. In due time she exhibited similar symptoms to Case III.; she received identical treatment and recovered sufficiently to leave on the 9th of February.

V.—G. H. was delivered about the same time as Case IV. She was put in the same recovery ward, suffered from similar symptoms, and recovered under the same treatment.

VI.—J. McD., a primipara, having a weak intellect, was seized after her labor with a similar train of symptoms, which however, were more intense. She received the same treatment as the others, and was able to leave with them on the 9th of February. So many cases occurring within a few days and presenting similar symptoms led me to seek for the exciting cause in the state of the hospital itself. I was satisfied that the wards had been kept scrupulously clean, that strict attention had been paid to the ventilation, and that every opportunity had been seized for fumigating the wards with burnt sulphur or with carbolic acid. The beds are made up of chopped straw, and are frequently renewed. On admission the patients themselves had always to submit to a hot bath including a good wash, and they have a comfortable change of clothing provided for them. The nurses could not have been the means of transmitting the virus, for new nurses were appointed to wait on the fresh cases admitted without the patients (IV., V. and VI.) being freed from the influence of the infection. It appeared to me that if any infecting influence was present it must have its origin in the confinement ward. I ordered therefore the bedding to be destroyed. The room was thoroughly disinfected, and after being well cleansed, new beds were put in, and patients again admitted. The hospital record says that "since then the patients are making excellent recoveries."

Many questions arise in one's mind while endeavoring to account for this rapid spread of disease. Could miasmatic influence produce it? The patients were kept only an hour or two at most in the confinement ward before their removal into the recovery one. Thorough ventilation meanwhile had been maintained, and every sanitary means employed to protect the mother and her offspring. Supposing even that the earliest taint had been produced there, was it possible in such circumstances to become so virulent as to affect each succeeding case? In labors similar to No. I. we find the poisoned condition of the blood a result of the absorption, and not a precursor of the disease. Indeed, as an example of auto-infection (Schroeder,) due to a portion of the placenta becoming poisonous, and of afterward being absorbed, Case I. should have been very slow in developing any infecting material. Previous to the admission of Case I. the wards of the hospital were healthy.

These records will at least demonstrate how easily and how rapidly a puerperal epidemic can spread. Whatever influences may be at work to originate the poison, it evidently requires only a nidus that it may spread rapidly. Especially do we find this to be true in hospital experience. I am of opinion that in all cases where manual interference may be necesary it is our duty to exercise extra precaution against septic poisoning; and that where interference is necessary we should employ a disinfecting solution soon after delivery to the vaginal and intra-uterine regions. Thus the parts will be kept clean, and the discharges prevented from taking an unhealthy action, or of acting by absorption through the lacerations frequently produced by childbirth.—*Obst. Journal.*

ON THE INDICATIONS AGAINST VERSION IN SHOULDER PRESENTATIONS.

Dr. A Pinard, in his *These d'Agregation*, defines version by external and internal manipulation, and then goes on to describe the method of operation in breech presentation. He then comes to the contra-indications which result (1) from the non-dilatation of the orifice; (2) from the too deep impaction of the fœtus; (3) from a too great narrowness of the pelvis. Among the causes which oppose themselves to the dilatation of the orifice and prevent the accomplishment of version, the writer quotes cancer and fibrous tumors of the neck of the uterus. The writer then quotes a certain number of cases in which the too deep impaction of the fœtus prevented version. The retraction of the uterus, the result of fruitless attempts at version or of taking oxytocic medicines, is one of the most formal counter-indications against pelvic version. The author afterwards examines how the accoucheur should proceed in narrowness of the pelvis when there is breech presentation. In pelves which are constricted, but still show an extent of seven to nine centimetres in their promonto-pubic diameter, version must be performed. But when the diameter is under seven centimetres it becomes a question what is to be done. M. Pinard separates these pelves into two categories. In the first he places those which measure from five to six centimetres and a half; in the second, those which measure less than five centimetres. In the pelves of the first category M. Pinard admits that version is sometimes possible but extremely difficult. It is only after having bruised, torn, lacerated, even perforated the genital canal, that the cephalic extremity is extracted. If we leave out of the question the labor and fatigue of the accoucheur, and only look to the mother and child, what is the result? The child is crushed to pieces, the mother is exhausted and, weakened, and, notwithstanding all the skill of the operator, such disorganization of the genital parts may come on that, as a rule, death will be the consequence. The author then cites a series of cases in support of his views, and adopts the following conclusions: In pelves which measure from five to six and a half centimetres, if it be ascertained that the child is dead, version is still the only operation to which recourse can be had. But if the infant be living, version should be rejected, and recourse had to another operation. Pelvic version is impracticable in contraction under five centimetres. In the second part of his thesis, the author reviews the means by which version may be replaced: 1, when the neck is neither dilated nor dilatable; 2, when the fœtal portion is too deeply impacted; 3, when the uterus is constricted either by a prolonged labor or by the immoderate use of oxytocic drugs; 4, in extreme narrowness of the pelvis.—*London Medical Record.*

ASTRONOMICAL INSTRUMENTS.

Exhibited at the Loan Collection, South Kensington, London.

Astronomy, so far at all events as instruments are concerned, is an applied science, and the history of practical astronomy is the history of the adaptation of apparatus which had already been used in other fields to the special purpose of studying the heavenly bodies. We begin by measurement of angles, we end with a wide range of instruments illustrating the application of almost every branch of physical as well as of mathematical science. In modern observatories applications of the laws of optics, heat, electricity, chemistry, and dynamics, are met with at every turn.

Each introduction of a new instrument, or of a new method of attack, has by no means abolished the pre-existing one; accretion rather than substitution has been the rule. Measurement of angles goes on now more diligently than it did in the days of Hipparchus, but the angles are better measured, because the telescope has been added to the divided arc. Time is as necessary now as it was in the days of the clepsydra, but now we make a pendulum divide its flow into equal intervals and electricity record it. The colors of the stars are noted as carefully now as they were before the spectroscope was applied to the telescope, but now we study the spectrum and inquire into the cause of the color. The growth of the power of the telescope as an instrument for eye observations has gone on, although now almost all phenomena can be photographically recorded.

The uses to which all astronomical instruments may be put may be roughly separated into two large groups:

I. They may be used to study the positions, motions, and sizes of the various masses of matter in the universe. Here we are studying celestial mechanics or mechanical astronomy.

II. They may be used to study the motions of the molecules of which these various masses are built up, to learn their quality, arrangement, and motions. Here we are studying celestial physics, or physical astronomy.

And the instruments may be arranged either to increase the power of the eye or to secure photographic records.

The instrument out of which the instruments comprised in the first group have sprung, dates from Hipparchus (160 B. C.), in whose time divided circles were first used. It consisted of two circles of copper, one smaller and free to move inside the other. The larger one was divided into 360°, and the inner interior one carried two pointers. This was placed in the plane of the meridian, and used for observing the sun's altitude, and was the first meridian instrument. This and the quadrant preferred by Ptolemy to the complete circle, were the parents of mural circles and the transit instruments used in our own day.

It is to Hipparchus himself that we owe the first instrument by which positions could be noted on any part of the celestial vault—"extra-meridional" observations, as they are termed. His astrolabe and other instruments are the foreshadowings of the *Armillæ aliæ Æquatoriæ* and the *Armillæ Zodiacales* of Tycho Brahe, and of the modern altazimuths and equatorials. In the collection is a model showing, in their most simple form, the principles of the instrument used by Hipparchus for determining either the right ascensions and declinations, or the latitude and longitude of the heavenly bodies, and which enabled him to discover the procession of the equinoxes.

In the vast and admirable collection of instruments brought together by Tycho Brahe were to be found everything the ingenuity of man had contrived for the observation of the heavenly bodies before the introduction of the telescope. In addition to the *Quadrans Muralis* and the *Armillae* to which we have before referred, we have the *Instrumentum parallacticum sive Regularum*, for measuring altitudes ; the *Quadrans Maximus chalibeus quadrato inclusus et horizonti azimuthali chalybeo insistens*, the *Sextans astronomicus trigonicus distantiis rimandis*, and many others.

All these were much larger than the Greek instruments, because increased size of instruments were necessary, for increased accuracy of reading. Ptolemy read the divisions on his quadrant, which was used mainly for observing the height of the sun, by allowing the shadow of a cylinder at its centre to fall on another movable along the divided limb of the instrument. Hipparchus observed within ten minutes of arc. Tycho used plain sights, which were pointed to the object ; the circles were divided to minutes of arc, and by using transversals, or a diagonal scale, a method due to Richard Chanzler, according to Digges (*Alæ seu scalæ Mathematicæ*, Londini, 1573), the arc was divided down to ten seconds. This method is well seen in the quadrant formerly belonging to Napier of Merchistoun, contributed by the University of Edinburgh.

It will be seen, then, that great progress had been made in measures of space. Equal progress had been made in the measure of time ; for in Tycho's observatory the dial by day and the clepsydra by night had given place to clocks—not clocks as we now know them, regulated by pendulums, but clocks controlled by the oscillations of weighted bars, such as the Dover clock.

The introduction of the refracting telescope and pendulum, in the 17th century, marks the most important epoch in the history of astronomical instruments.

In mechanical astronomy the use of a telescope, instead of the cylinders of Ptolemy and the plain sights to be seen on Tycho's quadrant, and on the various astrolabes, at once placed the determinations of positions, and therefore of motions, which are simply changes of position, on a new basis. Nor was this all. In the telescope itself, at the common focus, was soon placed, independently by Huyghens and Gascoigne, and afterwards by the Marquis Malvasia, an apparatus for measuring small angles. The difficulty of doing this, without such an apparatus, is very strongly indicated by Grant, in his admirable History of Physical Astronomy, who tells how Tycho had been so misled by his measurements of the sun and moon, that he had come to the conclusion that a total eclipse of the sun was impossible.

The strip of metal inserted in the eye-piece by Huyghens, is now represented by the modern micrometer, which allows measurements to be made to the hundredth of a second of arc.

Since the time of Hall and Dollond (to which reference will be made further on) refracting telescopes have been constantly growing larger, more perfect and more compact ; at the same time the division of the circle into equal parts has been growing more perfect and more minute. Hence the tables are turned, and instead of a small sight on a gigantic arc, we have a large sight (the telescope) on a comparatively small circle. This state of things has necessitated a change in the method of mounting. The telescope is now the first thing to be considered, and it is generally supported on a central axis at right angles to its length, with carefully finished pivots, which rest on supports called Y's, and the circle which is attached to one end or other of the axis is read by microscopes armed with micrometers. Such an instrument can be well studied by means of the model of the transit instrument at Greenwich (No. 1,780). A vertical circle only is required for transit instruments and prime vertical instruments; but where azimuths are also required, the system, as above described, is made to rotate on a vertical axis, and there is a horizontal circle similar to the vertical one. Dr. Bruhns' Transit Instrument (No. 1,770) shows how the introduction of the use of a prism in front of the object glass affects this method of mounting, and indicates a new method which is certain to be largely used in the future.

The most perfectly-mounted instruments, however, would be almost worthless, for the purposes of mechanical astronomy, were the positions which they determine not accompanied by an accurate statement of the time of the observations. There is ample material in the collection to show that this is now possible.

The rude clocks of the Tychonic period have now been replaced by time-keepers only just short of absolute perfection; the compensation of the pendulum of the clock, or the balance of the chronometer, for changes of temperature, is now accomplished in various ways, and, even the irregularity of a clock's rate for changes of atmospheric pressure has now been corrected. This perfect flow of time, moreover, is now electrically recorded in a permanent manner by means of chronographs (No. 1,843), and the "eye and ear" method of judging of small intervals, by mentally dividing the intervals between the beats of a second pendulum into tenths, is now superceded by another, which enables us to record permanently, as accurately as anything human can, any instant or interval of time on a scale whcih may be as large almost as we please. If observers were infallible, a thousandth of a second would now be a gross quantity (Nos. 1,871—5).

By the introduction of electricity not only can the beats of a pendulum be permanently recorded, but the beat of a standard clock may be made to control the beats of others (No. 1844).

When we pass from the mechanical to the physical side of astronomy, the means of getting a great quantity of light, and of utilising it in various ways, are the first things to be considered.

In this place, of course, we can only consider this question from the instrumental point of view. We need not enter into the question of the actual invention of the refracting telescope. It is quite clear, however, that Galileo, whose instrument has been forwarded from Florence for exhibition, was the one who used it in the very early days with the greatest amount of success. In his time we find it composed of an object-glass rarely exceeding one inch in diameter In some of the lenses used by Galileo himself it did not even reach these dimensions, and it was soon found convenient, in order to correct the chromatic aberration of the glass, to make the focus as long as possible. The first telescopes, therefore, were of the dimensions of walking sticks. The next great advance made is due to Huyghens, and others about his time, who, still bound by the same necessity of having a long focal length, were, in consequence of the improvements in the manufacture of glass, not bound to the same dimensions.

Among the contributions from Holland, and from our own Royal Society, will be seen a large number of lenses, some of them of truly enormous focal length, one of them extending to 360 feet. Although these lenses were made in the infancy, so to speak, of the science, and although they are simple single lenses, the idea of achromatism being one which was introduced very much later, the long focal length, combined with their exquisite figure, makes them astronomical instruments of very great power, although, as they were at first used, it was almost impossible to extract valuable observations from them. The instruments of this kind belonging to the Royal Society, were some years ago erected on a special stage in the Kew Gardens (also among the objects exhibited), and Mr. De la Rue found that the figure was absolutely perfect. Since that time, the introduction of the siderostat, perfected by Foucault, although the idea of its introduction was suggested by Hooke, has afforded another opportunity of judging of their performance, resulting in the opinion of Mr. De la Rue being amply indorsed ; and some of them are now being used for the purpose of obtaining enlarged images of the sun, to permit of photographing the disc of the sun, and the spectrum of the various portions.

As is well known, it was the opinion of Newton, who lived in the time of the introduction of these long lenses, that the improvement of this kind of instrument, in the matter of correcting the colored effects of dispersion, was " desperate ; " recourse to reflection was therefore suggested, and as a matter of fact the reflecting telescope dates from Newton's time. Newton's original instrument, by which he demonstrated that by employing a mirror instead of a lens a telescope could be made of a very much more compact form, will be found among those exhibited, and also other reflectors made by Sir William Herschel, the late Lord Rosse, and by the opticians of our own time. Hall and Dollond, however, concurrently with the improvement of the reflecting telescope, showed that Newton's dictum with regard to the refracting one was unfounded, and now the refracting telescope is made as compact, if not indeed more compact, than the reflecting one, and with every improvement in the manufacture of glass, the size of the object-glass has been increased ; so that now the half-inch aperture of Galileo is represented by the 25-inch aperture of the telescope belonging to Mr. Newall, made by Cooke of York ; by the 26-inch apertures of the telescopes recently finished in the United States, by Alvan Clarke of Boston ; and by the 27-inch aperture which is now being constructed for the Austrian Government by Mr. Grubb, of Dublin, a model of which is exhibited.

Even now, however, the reflector still holds its own in point of size. The 2-inch metallic speculum of Newton was extended to four feet by Sir William Herschel, to six feet by Lord Rosse ; to four feet again by Mr. Lassell, and after the introduction of a new chemical process, by which a film of silver of the utmost brilliancy could be deposited on a surface of glass, the heavy metallic speculum, sometimes weighing tons, has now given way to a much lighter and thinner one of glass, which has the distinct advantage of keeping its figure for any length of time, so that now the modern reflecting telescope is perhaps most adequately represented by the 4-foot silver-on-glass speculum of the magnificent equatorial reflector recently erected in the observatory at Paris.

So much, then, for the means of collecting light. If it is simply intended to use this greater quantity of light for the purpose of increasing the power of the eye—various eye-pieces are used, the construction of which depends upon principles which have been introduced from time to time by Newton, Herschel, Ramsden, Airy, and others. The most interesting applications of the large telescope in our present observatories are those connected with other uses. Those, namely, which deal with the spectroscopic examination, or the polariscope examination of light, or, again, with the thermal radiation from the celestial body under examination. For the spectroscopic examination of the heavenly bodies, the spectroscope, an instrument which will be found described in another section, is applied to the telescope in lieu of an eye-piece; the image, whether produced by an object-glass or a mirror, is made to fall on the slit, in which case we get the spectrum of various portions of such bodies as the sun, moon, planets, comets, and nebulæ without any difficulty, with the distinction that the brighter the body the more dispersion can be employed in the spectroscope. In the case of stars, as the spectrum of a point is a line, it becomes necessary to widen out this line into a band, in order to render the various absorption phenomena visible. For this purpose a cylindrical lens is employed either in front of the slit, according to the method used by Mr. Huggins, or nearer the eye, according to that favoured by many continental astronomers. Here, again, as in the case of ordinary eye observation, we may replace the retina by a photographic plate, and obtain photographs of the spectra of the various heavenly bodies as well as of the heavenly bodies themselves.

The polariscopic examination of the heavenly bodies becomes a point of extreme importance when an eclipse of the sun has to be observed, and we here have a neat means of determining the position in space of the particles which are reflecting the light towards the eye. For this purpose, all that is necessary is to introduce a bi-quartz or a savart, in front of a Nicol in the eye-piece, and the various polariscopic phenomena are seen in this case as they are in the examination of a light source in the laboratory.

The application of a thermo-electro pile in lieu of an eye-piece to determine the amount of heat radiation from the heavenly bodies was, I believe, first employed by Professor Henry in the case of his determination of the various temperatures of the different portions of the sun. Since that time it has been applied to the heat of the stars by Mr. Stone, and to the heat of the moon by Lord Rosse, who exhibits the actual instrument employed, and there is little doubt that in process of time such an instrument will become part of the regular stock in trade of physical observatory.

It is impossible, in such a mere sketch as this must of necessity be, to do more than indicate the ground covered by the Collection. The Collection, however, speaks most eloquently for itself, and, thanks to observers in this and other countries, there is no part of the domain, either of mechanical or physical astronomy, which is not illustrated, either by objects of historical interest or by instruments of more recent date, which have aided observations or experiments destined to long outlive those who used them.

J. NORMAN LOCKYER.

THE PROPHYLAXIS OF CHOLERA.

While "preventive medicine" has of late been making decided progress in various directions, no better work has been done in any of its departments than that which has for its ultimate object the suppression of Asiatic cholera.

One of the ablest laborers in this field is Prof. Max von Pettenkofer, of Munich, some of whose writings are already widely known. A report by him upon an epidemic of cholera occurring in the prison at Laufen—a masterpiece in its way—is noticed in another part of this journal. More recently, Prof. Von Pettenkofer has published an article upon the prophylaxis of cholera, which contains much that is worthy of careful consideration on the part of those who are as much interested in the prevention of disease as in its cure.

Von Pettenkofer's views are essentially as follows. In order to guard a community against the introduction of epidemic disease, three means may be suggested: 1. The attempt may be made to exclude the epidemic influence, the "disease germs," by means of a rigidly enforced quarantine. 2. The endeavor to guard the individual may be essayed by the usual precautions of personal cleanliness, attention to diet, etc. 3. The locality may be purified, disinfected, freed from sewage, polluted water may be replaced by pure, and various similar precautions may be taken.

These provisions do not, of course, exhaust all the possibilities of precaution, but they indicate the chief directions in which this may be exercised. The outbreak of cholera in a given locality may be compared to the explosion of gunpowder by a lighted match. The match or the flying spark is harmless if the gunpowder be moist, or if any one of its constituents be wanting. Now, taking this view of cholera contagion, we have the "germ" as the ignited match or spark alighting in a town on a house where the situation and water may be good, but the drainage bad. Some only of the constituents of the powder being present, no explosion takes place. In another locality, strict quarantine may keep *almost all* of the germs out, the drainage is for the most part fair, the water tolerably pure, but all the elements of the cholera powder being present, however diminished in amount, the explosion takes place. Cholera powder, to be sure, is a very much more complicated combination than gunpowder; but still, if we can utterly destroy *one* constituent, remove *one* link from the chain, is it not reasonable to expect that the explosive power will be lost, the concatenation of cause and effect paralyzed?

Quarantine cannot, in the nature of things, be entirely relied upon. When we consider the attenuated character of the poison, the thousand channels which can serve to introduce it, the almost indefinite period during which the "germs" may slumber, to awake suddenly to destructive life, under favorable conditions, how futile an expedient must the strictest quarantine appear!

If, however, we can prepare the soil so as to render it unfavorable for the reception of cholera "germs," they may then come singly or in myriads without exciting unfavorable developments.

Purification of the drinking-water and thorough disinfection and removal of sewage—these two precautions can be and have been carried out perfectly, in certain cases with the happiest results. Whole towns in Germany, which were formerly ravaged by cholera during former invasions, have been entirely free from the disease during late epidemics. This result, so striking as to be incontestable, was brought about by thorough and efficient drainage, and purification of the water-supply. Certain enthusiasts hope to see the day when some procedure similar to vaccination shall be discovered, which shall do for cholera what that has done for smallpox. We may or may not live to see such a dream realized; but the real protection afforded by drainage and pure water is within reach, and it ought not to be long before the advantages of these precautions are everywhere realized.—*Med. Times*.

SALICYLIC ACID IN ACUTE RHEUMATISM.

By C. M. Bates, M. D.,

Professor of Clinical Medicine in the Medical Department University of California, and Visiting Physicion to the San Francisco City and County Hospital.

Reports have already appeared in the various medical journals concerning the successful employment of salicylic acid in acute and articular rheumatism. These reports point to the probability that the new remedy may prove an accession to our meager list of true specifics. My experience with the drug in the San Francisco City and County Hospital seems confirmatory even of the most sanguine of these observers. It has yet to stand the most searching test of all—the test of time—before its place in therapeutics can be determined ; but should the remedy bear out, in the future, its present flattering promise, it may certainly claim to take rank with quinine and iodide of potassium as a direct antidote to disease. On the 15th of April I commenced the use salicylic acid in the wards of the hospital, and after a month's trial I lay before my professional brethren the results, in my hands, of this agent in the treatment of acute rheumatism.

The first case, April 15th, was a well-marked instance of the acute form of rheumatism, or rheumatic fever. It was a strong man, aged thirty-five, four days down with the disease, pulse 110, temperature 104 ; elbows, knees, ankles, and phalangeal joints swollen, red, and intensely painful on the slightest attempt at motion. He was placed upon seven grains of salicylic acid every hour. Next day the patient showed a very decided improvement. The pain was allayed to a marked degree, the swelling diminished, and the pulse reduced to 90. On the third day the patient was walking in the ward, and on the fifth was discharged cured.

I have before me the history of thirteen other cases of acute rheumatism treated since, but their history would be simply a reiteration. Treated with hour doses of the acid, the result has been one uniform, unvarying success. In twenty-four hours the system has become completely saturated, and the effects are then plainly perceptible. In no case was the recovery deferred till after the fifth day ; while two mild cases left their beds on the second, and the hospital on the third day. In Case No. 5 the pain and articular effusion were unusually great, and the febrile movement correspondingly high. This man was discharged cured on the fifth day, returned in a week with the same disease, in a somewhat milder form, and after three days' treatment, again bent his steps toward the city. Other therapeutical agents, chiefly cathartics, to correct functional derangement of the liver, were employed in but three cases out of the fourteen. In the treatment of sub-acute and chronic rheumatism the antidote properties of the drug are not so apparent, although the pain and soreness seem to decrease under its use. Its value in these forms of the disease is fairly open to question. A case occurred, in which fever, pain, joint-effusion, and profuse sudor supervened upon sub-acute rheumatism of long standing. The acid speedily arrested these acute symptoms, leaving the patient *in statu quo.*

A word as to the manner of administering the remedy. I prescribe three drachms divided into twenty-four powders, one to be taken every hour in rice-wafer. I have tried both ways, and find this preferable to giving it dissolved in water. The solution causes a disagreeable, burning sensation in the throat and esophagus, and is liable to be followed by emesis.

That salicylic acid exerts a direct influence over a dire and baffling disease, sufficient evidence has been adduced, yet the experience of past years has taught us that every new remedy with much-vaunted powers must be received with caution and a certain amount of doubt. It must go through the same ordeal as did chloral hydrate and also its near kinsman carbolic acid. In other hands it may fail; in my own, I shall not wonder if it fall short of its present promise. But enough has been brough tforward to draw the earnest attention of the profession to it. Let us then try it thoroughly and publish the results.

Gleanings.

Cod Liver Oil and Lacto-Phosphate of Lime.—Edward Chiles, (*American Journal Phar.*), says this remedy is being quite extensively prescribed by physicians, and, as considerable inquiry has been made as to an eligible mode of prescribing it, I will give my experience in the manufacture of the article, and also a simple process for making syrup of lacto-phosphate of lime.

For a long time I have had demand for a tasteless cod liver oil, and have been in the habit of preparing it in the form of an emulsion with gum arabic water, and covering the odor with a few drops of essential oil of bitter almonds.

Over a year ago I found physicians were prescribing cod liver oil and lacto-phosphate of lime, and I devised a formula for it, hased on my experience with the simple emulsion and the syrup of lacto-phosphate of lime, for which a considerable demand had sprung up. The formula I then devised has been followed by me up to the present time, and has invariably given satisfaction, and produces an article which does not separate or become rancid.

I think, however, it should be preparee extemporaneously as prescribed by physicians, and I have not kept it on hand, but prepare it as wanted, thus always giving a perfectly sweet article.

Take of Gum arabic	oz. ij drm. ij.
Water	f oz. ij.
Syr. lacto-phosphate of lime	f oz. vi.
Cod liver oil	f oz. viij.
Essential oil bitter almonds	six drops.

Rub the gum, water and syrup together, until a smooth mucilage is made, then add the oil gradually with constant stirring, and, lastly, the oil of bitter almonds.

Thus made, each tablespoonful of cod liver oil and lacto-phosphate of lime contains four (4) grains lacto-phosphate of lime and 50 per cent. of cod liver oil. The gum in the above should be selected, ground and passed through a sieve of 60 meshes to the inch. Cod liver oil and lacto-phosphate of lime, prepared in this manner, forms a preparation free from unpleasant taste and odor, and enables the practitioner to administer these valuable remedies without repugnance on the part of the patient.

An Instrument for the Removal of Retained Placenta.—Dr. Adolph Rasch, at the last meeting of the British Medical Association (*Obstet. Journal of Great Britain*), advocated mechanical procedures for removing the ovum in those cases of abortion in which ergot and cold fail to arrest the hemorrhage, and the tampon has been given a fair trial without bringing away the contents of the uterus. In most cases this can be done by the fingers in the vagina, aided by outward fixation of the uterus. But still, cases occur where the retained placenta can be touched but not brought down, and where prolonged and dangerous hemorrhage makes a speedy removal imperative. The instruments contrived for that purpose seem to Dr. Rasch to all have the fault in common that the operator does not feel what he has hold of. His instrument is a sensitive forceps, one-half of which consists of the index finger, the other half of a scoop, with a finely-toothed bowl just large enough for the tip of the index finger, on which it is to be introduced through the os. The scoop is pushed up on the outer side of the placenta, the index finger guiding, and at last pressing the latter into the bowl. Three fingers of the same hand perform, by pressing the stem into the hollow of the hand, what is necessary to transform this single blade, or half forceps, into a complete one. Thus all danger of injuring the uterus is obviated, and a firm purchase of the placenta or membranes effected. After five years' trial, Dr. Rasch warmly recommends his simple and cheap instrument.

Scientific Pioneers.—One of the great characteristic elements of scientific knowledge is that it is progressive, and the nature of that progress is to arrive gradually at the establishment of truth. Science having fixed upon its methods—methods that have been vindicated in its history—goes on with the exploration of phenomena in all fields, by beginning with imperfect evidence and gradually working out its investigations to the completeness of proof and the firm establishment of the facts and principles. This being so, it follows that those who lead in science, who are active in its preliminary work are naturally the most obnoxious to all those classes who rest contented with the existing state of opinion and are the conservators of tranditional belief. It has always been so. In every phase and stage of advancing science it is those that push on with the pioneer work, who begin to question opinions long rooted, trusting to the wholesomeness of inquiry, and the validity of long-tested scientific procedure, that encounter denunciation as disturbers of the world's intellectual peace. It was those who initiated investigation in astronomy, geology, physiology, and the various branches of natural phenomena; and it is those who are now pushing scientific methods of thought into fields where they have hitherto been unrecognized, that are most obnoxious to criticism as meddlers, disturbers, and destructives. The world at length accepts the work, and when it is accomplished will even applaud those who begun it; but it is as yet by no means recognizes the necessity of sharper questioning, of exploration in new fields, of a more inexorable scrutiny of old opinions, or the necessity of accepting the initial work of pioneer thinkers as leg'timate and indispensible.—Prof. Youmans, *in Popular Science Monthly for April.*

Treatment of Hemiplegia, by Large Doses of Bromide of Ammonia.—By Dr. Riopel.—In giving his experience in the use of bromides, the Doctor premises his statements with the remarks, that he is aware that he is liable to strong criticism, inasmuch as it varies from the standard treatment, and especially that advocated by Brown-Sequard and other noted men—viz., ergot, belladonna, strychnia, etc. He reports cases showing the favorable result of his treatment, one of which I copy as a typical case:

The Theapy of Leucocythæmia. — In his preliminary note to the *Centralblatt fur die medicinischen Wissenschaften,* Dr. Ordenstein states that hereditary syphilis is a prolific cause of the affection. In one obstinate case under his care, in which every kind of treatment had proved futile, he discovered a syphilitic history in the patient's father. A corresponding treatment was now instituted, and the result was a speedy cure. He promises to discuss this subject more fully in another article.

DR. MUNDE, in New York *Academy of Medicine*, was of the opinion that no injury would follow, if the placenta, after an abortion, was permitted to remain in the uterus for a number of days after the expulsion of the fœtus, and by the introduction of a tampon and the use of ergot, etc., it could be, as a rule, found in the vagina within a very moderate length of time.

Dr. Hubbard remarked that for the last twenty years he had made it a rule to leave the placenta entirely alone in abortion occurring from one to four months. If hemorrhage is severe after the expulsion of the fœtus, use a tampon, and leave the case to take care of itself. He tampons in the following manner: Take about one ounce of pulverized alum, tie it up in a fine cambric handkerchief, and leave the string attached. Introduce this little bag into the vagina, and crowd it up against the neck of the uterus. Behind this he usually places a piece of soft sponge, which also has a string attached to it, and then he leaves the woman, feeling that she is perfectly safe. The next day this tampon is removed, and if hemorrhage occurs, another is introduced, and another day is allowed to pass. In a large number of cases the placenta will be found in the vagina quite certainly at the end of the second, probably by the end of the first day, and he believes this to be the safest practice. Interference he regarded as bad practice, provided the mouth of the uterus is not dilated sufficient to permit of the easy removal of the uterine contents.

For more than twenty years he has not introduced the hand into the cavity of the uterus for the purpose of removing a clot. All that is necessary is to introduce the hand into the vagina, and two fingers into the cavity of the uterus, and break up the clot, when it will be rapidly expelled, if pressure is at the same time made over the uterus with the other hand. Now, if pain is present, give ergot, for it will not act if pain is absent; and if pain is absent, give opium and nux vomica for the purpose of developing nerve-power. This was his method of treating this class of cases, and believed by Dr. Hubbard to be safe and effectual. If the placenta is adherent, another condition of affairs is present, and it may be necessary to proceed to its removal.

Dr. Garrish regarded the treatment by the immediate removal of the placenta in abortion as impracticable, for the reason that in many cases it is impossible to reach the cervix, so that the finger or any instrument can be introduced with safety for such purpose. His habit is to use a lump of alum tampon, with cotton or sponge, and permit the placenta to remain six or eight days if necessary. No serious consequences have ever attended this method of treatment. The vaginal surfaces are at the same time kept clean by the use of antiseptics.

Dr. Garrish was also of the opinion that chloroform administered during confinement predisposes to post partum hemorrhage.

PLUGGING THE NASAL CAVITIES.—Dr. T. H. Jewett describes (Philadelphia *Medical and Surgical Reporter*) the following simple plug in nasal hemorrhage: Roll up a lock of cotton into a cylinder an inch or an inch and a half in length; tie a strong thread to the middle of the roll; bring the two ends of the roll together, and then, opening the nasal orifice, pass the middle or the folded part of the roll into the nostril; next with the blunt end of a lead-pencil press in the cotton roll slowly along the floor of the nose, one inch or more, and rest. If the blood passes down into the throat, you may be sure the bleeding spot is behind the roll; so push in your roll further, and the blood will cease to pass behind. Then, holding on to the string, pass some loose cotton into the nostril and push it down to the plug. The cotton will swell with the moisture and arrest the hemmorrhoge. In a day or two the natural secretions of the nasal surfaces will loosen the plug, and it may be easily withdrawn by the string.—*Jour. Mat. Med.*

Removal of Foreign Bodies from the Ear. — Dr. John Cleland suggests that, in removing foreign bodies from the ear, the point of the probe or needle used for extraction should be placed below the object to be dislodged. By so doing it is placed between two inclined planes, and is readily and easily expelled. — *Phil. Med. Times*, Jan. 23, 1875, fr. *The Lancet* Dec. 5, 1874.

Freckle Lotion.—Take:

Citric acid	3 drachms.
Rose water	12 fl. ounces.

To apply both of those lotions it is only necessary to moisten a sponge or the fingers with them, and to wet the skin by gentle rubbing.—*Canada Medical Record.*

Treatment of Itch.—It is well-known that friction with sulphur ointment may render much worse the various inflammatory affections of the skin which are excited by the presence of the acarus. To avoid this complication, the patient should use one part of styrax to two of oil of sweet almonds or olive oil. By this means the acarus is quickly destroyed, and the skin hardly irritated.—*Lancet.*

Microscopy.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

The regular meeting of the San Francisco Microscopical Society was held on Thursday evening, May 18, as usual, with a good attendance of members present, and Messrs. Ed. J. Wickson and W. G. Winter as visitors. Vice-President Hyde occupied the Chair in the abscence of Mr. Ashburner.

Dr. J. P. Whitney and Mr. J. A. Langstroth were elected active members of the Society.

Additions to the library by subscription were announced, as follows: *American Journol of Microscopy*, for April; *American Naturalist* and Cincinnati Medical News, for May; *English Mechanic*, *Nature* and three numbers of *Flora*, Regensberg. There were received by purchase: "Fresh Water Algæ of North America," Wood; "First Book of Zoology," Morse; "Popular History of British Lichens," Lindsey; "Genera Lichenum," Tuckerman: Flint's "Textbook of Human Physiology;" Lindley's "Introduction to Botany;" "Spectrum Analysis as applied to Microscopical Observation," Suffolk; "Outlines of Practical Histology," Rutherford; "Principles of Physiology," Bushnan.

Mr. Kinne read an interesting paper on a new variety of acarus found in the ulcerous root of the lemon and orange trees, and exhibited the living animal, with the same mounted to show the various parts, after treatment with carbolic acid to render them transparent. Several important differences were noted from others of their kin, which the prepared specimens and an enlarged drawing on the blackboard made quite plain.

Mr. Hyde offered a plan to be observed in the selection and arrangement of objects for the annual reception, which, slightly modified, was adopted, and will render the entertainment not only pleasing and popular, but highly instructive at the same time. After some details, necessary for the matter, were attended to, tickets were distributed to the members and the meeting adjourned.

MR. KINNE'S PAPER.

To the San Francisco Microscopical Society.—

Gentlemen:—A few days since Mr. E, J. Wickson of the *Pacific Rural Press*, handed me a portion of the diseased root of a lemon tree, sent him from Los Angeles, by Mr. Leslie F. Gay of that place, who has made some investigations regarding the cause of the immense destruction of orange and lemon trees in Los Angeles county, and embodied his deduction in a letter published in the *Rural Press* of April 29, in which he states that he has become satisfied that he has solved the riddle as to the cause of the trouble, and speaks of a cure which he will furnish at some future time. He describes the bark in which the disease is located as first turning yellow, then becoming wet and spongy, finally assuming a darker hue and decaying. Of course the decay of the bark of the tree or root is sufficient to destroy the whole, and Mr. Gay, finding in and on the mass of ulcerous vegetable matter an insect which he describes as appearing like a wingless beetle, and a worm which stands on its head and gyrates its body to facilitate its endeavor to pry into things, he concludes the little parasites are the cause of the disease and final death of the tree.

Placing a piece of the root under an inch and a half objective, myriads of minute moving specks, just visible to the naked eye, were found to be living animals with a plump, polished, oval body of a pellucid white hue, and a cursory examination, with Mr. Henry Edwards and Mr. Wickson, of their various parts, as well as their general appearance, was sufficient to define them as being a true *acarus*, a genus of *arachnida*, they having the distinguishing features of a snout-like proboscis, perfect legs and transverse furrows. Crushing the *acarus* in order to observe the parts of the mouth and legs, and examining with a fourth objective, the characteristics of the common cheese mite are met with, and which are familiar to most of you. The mandibles have the pincer-form claws, the reddish legs are inserted in two groups, and the legs and body furnished with minute hairy bristles. The ova sac is well defined.

I have treated a few to a dose of carbolic acid, rendering them transparent, mounted the same for your examination, and would call attention to several important differences as compared to a score or more of *acari* which I have seen or found described. The anterior pairs of legs are of the usual size, perhaps a little larger, but the posterior pairs are in all cases dwarfed and hardly project to the edge of the body, though perfect throughout. The terminal joints are provided not only with very formidable claws, but with several auxiliary ones surrounding them, while the sixth joint, usually long and slender, is short and nearly as large as the others, all of which features are marked and permanent enough as to at least claim it as being a new variety, in which Mr. Edwards concurs. In this connection I would also mention a single peculiarity which I have found in an *acarus* which answers the description of the *Acarus sacchari* (Hassall), in the most minute particulars. It was found infesting the barley and other feed in the stable of a gentleman in this city recently, to an extent that the horses refused their food, and on examination the only difference to be discerned from the sugar insect was a pointed protuberance at the inferior outer extremity of the third joint of the first pair of legs.

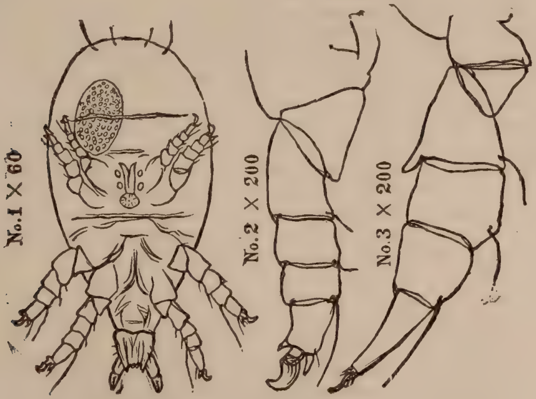
To return to the lemon and orange tree *acarus.* I desire to say that, reasoning from the known habits of its kindred, the general construction of its mouth parts, having a broad labium, with blunt points buttressed by a pair of palpi, which are, so to speak, soldered to the sides of the lip, the upper part of the mouth being a pair of mandibles jointed to the head and movable, so as to form no doubt effective prehensile but not piercing organs, it would seem improbable for the little parasite to be at all damaging to the welfare of the growth or life of an otherwise healthy tree. In fact they might better be regarded as scavengers, offering their *mite* toward removing the result of the disease brought about by irrigation or other causes. The statement of ex Governor Downey in the state issue of the *Rural Press*, that, although he had not met with the so-called destroyer which Mr. Gay describes, yet his trees are also diseased, is additional testimony, if need be, to this end.

Remarking that I fear Mr. Gay cannot establish any connection between this *acarus* and the little gymnastic worm he mentions, I will close by stating that if in trying to eradicate the parasite he has stumbled on a remedy for a disease of which I feel convinced they are the effect and not the cause, it is none the less to his credit as a faithful experimenter, and he should lose no time in making it known for the benefit of others interested.

C. MASON KINNE

We give herewith an engraving of one of the insects. It was drawn on the wood, from the microscope, by Mr. Kinne.

Figure 1 is enlarged 60 diameters, and shows the general appearance of the animal when crushed on a slide, which operation renders the whole anatomy distinct. The mouth parts, consisting of mandibles, labium and palpi, the remarkably smaller posterior pairs of legs, the ova sac, etc., are shown; while Fig. 2 gives the upper anterior leg magnified 200 diameters, which is so placed as to be easily compared with the same leg of the barley acarus, and shown in Fig. 3, with the long sixth joint and process on the third joint.



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MR. WENHAM'S LATEST DIAGRAM.

By GEO. E. BLACKHAM, M. D., Dunkirk, N. Y.

Mr. F. H. Wenham, C. E., consulting mathematician for Ross & Co., of London, has doubtless rendered considerable service to the science of microscopy. Of this service may be reckoned the invention of the popular form of binocular, the parabolic illuminator for dark field illumination, Ross' patent new formula objectives, etc.; these last "by dispensing with six refracting surfaces, give increased brilliancy, etc." But as some of them at least dispense with a good share of spherical and chromatic correction, the benefit conferred by their invention and construction may be looked upon as of the negative kind, which points out what to avoid rather than the positive kind which holds up a valuable improvement for imitation. However, having invented these glasses, and the firm having extensively advertised them as having angular aperture up to 170°, Mr. Wenham, C. E., in his eagerness to cast discredit upon an American optician, has been devoting himself to the ungracious task of proving that no lenses are made with an air angle of more than 112°, the catalogues of many reputable makers to the contrary notwithstanding. In order to demonstrate this and to crush out the audacious American who claims an air angle of about 180°, or balsam angle of 82° or more, Mr. Wenham, C. E., has produced several new inventions:

The reflex illuminator, though not ostensibly designed to play a part in this discussion, might have been a valuable auxiliary, as, by shutting out all rays interior to 82° of balsam angle it would give a dark field with any lens of much less than 180° of air angle. But alas! the American lens with the "impossible angle," took in even with reflex illumination these limital rays, and gave a bright field with exquisite definition of the most difficult tests.

The next thing was to show that even if the American objective did take in and utilize these limital rays, it had no business to do so; so Mr. W. evolved from his inner consciousness the famous isosceles triangle, whose base should be the working diameter of the front lens of the object glass, its apex the center of the field when focussed without intervening cover, and the angle included between the sides of the true aperture of the lens. Even with this beautiful arrangement there was trouble, for the eminent civil engineer, whose civility appears to be confined to his engineering, and not allowed to dilute his correspondence, has published at least two sets of measurements from the same objective.

Then came the invention of the slit to cut off false rays. The width of the slit was at first 1-50th of an inch, just about the width of the field, but, as this gave a balsam angle of about 93°, equal to an air angle of more than 180°, the slit was narrowed down until a balsam angle of 66½° was reached, and the isosceles triangle vindicated.

It would seem that having in this very satisfactory manner extinguished the believers in the lens with the "impossible angle," Mr. Wenham, C. E., might have rested content, but no, in the *M. M. J.* for April, 1876, he returns to the charge with a brand new diagram. After showing that in his diagram the immersion angle formed by the extreme rays emanating from the central point of the field is 66½°, he says: "Let the slit be now opened out to 1-50th of an inch, so as to admit the effective pencils embracing the entire field of view, light will then enter from the direction *b* This ray will also show a distinct image, and an aperture of 93° will now be indicated, instead of the former 66½°. This excess of angle is a false quantity, because it does not come as a radiant from one single position in the *axial focal point*, but from other lateral rays of the marginal foci."

The italics in the above quotation are mostly mine, and are intended to point out the curious *reductio ad absurdum* to which Mr. Wenham, C. E., has brought himself in his eagerness to belittle the work of a fellow optician. "Effective pencils" which *show a distinct image*, are to be counted as *false* because they chance to fall outside of the isosceles triangle invented by Mr. Wenham, C. E. Nay more, *all* rays are *false* which do not come "from one single position in the axial focal point." Alas, our whole field, with the exception of this one axial focal point, is illuminated by false rays, and the magnified image presented to our deluded eyes is formed by these *false* rays, with the sole exception of that portion which corresponds to the one axial focal point from which the true rays, none other are genuine, proceed; but as, according to old Euclid, a point has neither length, breadth, nor thickness, it must be smaller than President Sorby's ultimate atoms, which he says we can never hope to see, no matter how much we improve the microscope, and be too minute to be taken into account. Our *whole field* then is illuminated by *false rays*, and our whole image formed by them. Therefore they are the only rays with which we have any concern, yet we must not take them in account when measuring the angles of our lenses. "Oh! most lame and impotent conclusion!" The statement carries its own refutation, and we must admit all rays which "show a distinct image" as true rays, and discard the isosceles triangle of Mr. Wenham, C. E, as our measure of angle of aperture.

WYTHE'S AMPLIFIERS.

PROF. THACKER:—

Dear Sir: The NEWS for May 1876, contains a description of two amplifiers, by the Rev. J. H. Wythe, M. D.

Dr. Wythe therein informs the San Francisco Society that during the past two or three years he has made many experiments, resulting in the discovery of two amplifiers, both of which he describes—I quote Dr. Wythe's own words: "The second form of amplifier is better still, and consists of a double concave lens, having a virtual focus of about one and one half inches, at the end of a tube about six inches long, at the other end of which is the ordinary eye piece."

I have in my possession exactly the amplifier above described, which was made for me by R. B. Tolles seven years ago, and it has been in almost daily use. My attention was first called to the amplifier from seeing an advertisement of them by Mr. Tolles, and it must have been some two years afterwards that I sent Mr. T. my order, hence it is probable that Tolles has made these amplifiers for the last nine years.

I am entirely in harmony with Dr. Wythe's general position, to-wit: "That future progress in the power of the microscope must depend on the eye-piece, or intermediate arrangements of lenses between the eye piece and object glass."

J. EDWARDS SMITH.

Ashtabula, Ohio, May 20th 1876.

P. S.—Mayall did not go back to first principles about Wenham's slit—Wenham first laid down that a slit that would just limit the field was the proper one to be used. Tolles at once called attention to the importance of cover, and of cover adjustment, and also that when these conditions were attended to, that even a much narrower slit might be used and without shutting out angle ; but Wenham will not be satisfied until he gets a slit that will be narrow enough to stop out the extra limital rays, and this is easy enough to do.

Tolles made me two slits, one, without cover, which does shut out angle, and one similar, that has cover over one half of the slit, and rhomboides mounted under the same. With this last, the "last and least" light will show the rhomboides, thus proving that the oblique are working rays. The two slides together make the demonstration complete as to the folly of Wenham's position. Tolles has proved his position in a half dozen different ways, and as plainly as it is possible to prove any thing, and yet W. can't see it! None so blind as those who won't see! Time will have its revenges.

DECOLORING AND STAINING VEGETABLE TISSUE FOR MICROSCOPICAL EXAMINATION.

By George D. Beatty, M. D., Baltimore.

On previous occasions I have contributed to this journal articles on decoloring and staining vegetable tissue. Experience gained during the past year enables me to give in this article processes that will produce improved results.

All vegetable sections, and some leaves, may be prepared for staining by soaking them in alcohol, or in a mixture of dilute nitric acid and chlorate of potash ; but I much prefer the results obtained by first bleaching them in "Labarraque's Solution of Chlorinated Soda," and then treating them with alcohol for a few hours. In half an ounce of the soda solution a large number of sections may be placed, but not more than a dozen half or one-inch leaves, or parts of large leaves cut into inch pieces. Leaves in greater number adhere to each other, and thereby take longer to bleach.

Sections of matured wood should be kept in this solution from twelve to eighteen hours ; sections of stems, leaves, and petals from six to eighteen hours ; pistils and stamens, and sections through the gynæcium and receptacle of flowers, from two to six hours.

Leaves and petals should not only be bleached by the Labarraque, but should also be rendered translucent. This is accomplished in from six hours to six days.

If delicate leaves show evidence of disintegration after they are bleached, but before they have become translucent, they should be removed to alcohol, after washing them in water as described below. This renders them translucent within two days.

After removing from the Labarraque, put them into half a pint of clear water. Change the water five times during twenty-four hours, acidulating the third washing with five or ten drops of nitric acid. Sections can be washed in half the time required for leaves.

Next, put into alcohol, which in a few hours prepares them for staining. In alcohol, tissue may be kept for months without turning yellow.

I.—STAINING LEAVES AND PETALS.

For staining leaves and petals the best dyes are aniline-blue and hæmatoxylin.

Other anilines than the blue may be used, but they are not so pleasant to the eye, and are harder to work, as they fade out in both alcohol and oil of cloves.

Red aniline may be used one quarter of a grain to an ounce of alcohol; violet, one half-grain; and green, three grains.

To make the blue aniline dye, dissolve in a mortar half a grain of "Nicholson's Soluble Blue Pure" in one ounce of 90—93 per cent. alcohol, which has been acidulated with half a drop of nitric acid; then filter. Dilute a portion of this with alcohol to obtain a quarter-grain solution.

The formula for the hæmatoxylin dye is given further on.

A bright purple dye, good for leaves and sections, is made by steeping fresh berries of the *Phytolacca decandra* in alcohol. The stainings are quite permanent, but the dye does not keep over six weeks.

To Stain Leaves and Petals in Aniline Blue.

1st. Transfer several small leaves from alcohol to about half a drachm of the quarter grain blue.

If not stained of sufficient depth of hue in one hour—

2nd. Transfer to the half-grain blue for a quarter or half-hour.

3rd. Brush in 93 per cent. alcohol with camel-hair pencil, and trim the edges of cut leaves. Any excess of color may be soaked out in this dilute alcohol.

4th. Put into half a drachm of absolute alcohol for half or one hour. In this but a trace of color will be lost.

5th. Put in oil of cloves for one hour, or until ready to mount in Canada balsam and benzole.

To Stain Leaves and Petals in Hæmatoxylin.

1st. Transfer from alcohol to water for five minutes.

2nd. To 3 per cent. alum-water for ten minutes.

3rd. To hæmatoxylin dye, diluted with an equal part of 3 per cent. alum-water, for one hour.

4th. To full strength dye, if necessary, for half or one hour.

5th. To alum-water for a moment, or until any excess of color is soaked out.

6th. Brush thoroughly in water, and put into one ounce of clean water for fifteen minutes, to remove alum crystals.

7th. To 93 per cent. alcohol for fifteen minutes.

8th. To absolute alcohol for two hours, or longer.

9th. To oil of cloves for one hour, or until ready to mount.

Some leaves chiefly ferns with sori, may be double-stained with hæmatoxylin and aniline-blue; the former going to sori and spirals, the latter to other parts. The process is first to stain in hæmatoxylin, and then to soak the color in part from the body of the leaf by putting it in alum-water. Next carry through pure water and alcohol to a half-grain aniline-blue solution for thirty or forty-five seconds, and proceed as you do with a single blue staining.

II.—DOUBLE STAINING OF SECTIONS.

For double stainings I use hæmatoxylin and carmine, and blue, green, and red anilines.

Of the red anilines I prefer that known under the name of Magenta or Roseine Pure, though Fuchsin, Ponceau, and Solferino may be used. These anilines are manufactured at the Atlas Works of Brooke, Simpson, & Spiller, London.

The aniline dyes are made by dissolving the quantity given in each process, with aid of mortar and pestle, in one ounce of 93 per cent. alcohol, and filtering.

The hæmatoxylin and carmine dyes are made according in the following formulæ.

Hæmatoxylin Dye.

Ground Campeachy wood	½ ounce.
Pulv. alum	1 ounce.

Mix and triturate in a mortar for twenty minutes, then add five ounces of hot distilled water, and let it stand for two days. Filter, and to each ounce of the dye add two drachms of 75 per cent. alcohol. In twenty-four hours again filter to remove precipitated alum. This dye is made somewhat after Dr. Arnold's formula ; he using the extract instead of the wood. It keeps, with occasional filtering, in well-stoppered bottles for two months.

Borax Carmine Dye.

Pulv. Carmine	7½ grains.
Saturated Aqueous Solution of Borax	7½ fl. dr.
Mix and add Absolute Alcohol	15 drachms.

Filter and collect crystals when dry. Dissolve nine grains of crystals in one ounce of distilled water.

This is Mr. J. J. Woodward's formula ; but not so strong, as his a saturated solution.

Ammonia Carmine.

Pulv. Carmine	7½ grains.
Water of Ammonia	20 drops.
Absolute Alcohol	½ ounce.
Glycerine	1 ounce.
Distilled Water	1 ounce.

Put the pulverized carmine in a test-tube, and add the ammonia. Boil slowly for a few seconds, and set aside, uncorked, for a day, to get rid of excess of ammonia. Add the mixed water and glycerine, and next the alcohol ; then filter.

Process I—*To Stain Sections with Magenta and Blue Aniline.*

1st. Transfer from alcohol to magenta dye (one quarter of a grain to the ounce), and let remain from fifteen to thirty minutes.

2nd. Soak in alcohol for about the same time, or until the color is entirely, or in great part, removed from parenchymal tissue.

3rd. Place or hold in a quarter or a half-grain aniline-blue solution from fifteen to forty-five seconds.

4th. Shake in absolute alcohol for a few seconds.

5th. Put in oil of cloves for ten minutes.

6th. In clean oil of cloves for ten minutes.

7th. In half a drachm of benzole for five minutes.

8th. Mount in Canada balsam softened with benzole.

The benzole may be omitted, as it sometimes slightly contracts delicate tissue ; but it causes the mounting to harden much more rapidly, and, perhaps, is beneficial in preserving the magenta.

Process II.—*To Stain Sections in Magenta and Blue Compound.*

1st. Mix seven drops of a one-grain solution of magenta with five drops of a two grain solution of blue (*non*-acid).

2nd. Into this purple mixture put your section for five or ten seconds.

3rd. Shake rapidly in absolute alcohol for a few seconds.

4th. Treat with oil of cloves and benzole as in process I.

[Continued]

"MR. TOLLES' ONE-SIXTH AGAIN!"

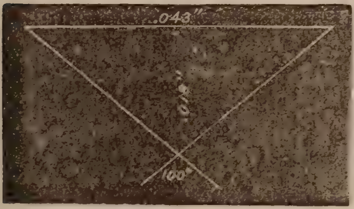
In the June number of the *Monthly Microscopical Journal*, of London, appears a letter of Mr. Tolles, of Boston, with the above heading, on the subject of angle of aperture of microscopic objectives—in particular of the ⅙th by Mr. Tolles, owned by a microscopist in London. In a foot note to the letter the editor of the "*M. M. J.*" has the following to say :

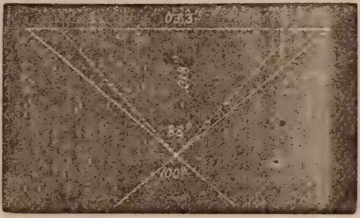
"Mr. Tolles has sent us, besides the above, another communication on the same subject, which however, we decline inserting. We must positively refuse publication to any other letters relating to Mr. Tolles' particular apertures, which we are sure our readers are heartily weary of.

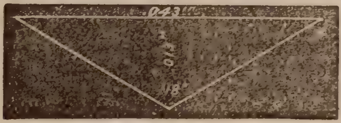
"By comparing the figures on the above diagrams with the dimensions given by Mr. Wenham on page 153 of this Journal for March, and at page 184 for April, it will be seen that Mr. Tolles, in both of them, in order to make out his case, has taken different dimensions of working diameter and focal distance from those of Mr. Wenham. This is a mere contradiction and no argument.

"Mr. Wenham, in his article in this Journal for April last, page 185, now stands responsible for the statement that 'all measurements for ascertaining large apertures have hitherto been erroneous, and far in excess of the true pencil.' As this is of importance, we shall be glad to afford space in our pages for a proper discussion as a pure question of science. If it is taken up as a personal one, letters having this tendency will not appear in our pages."

In reply to these editorials comments Mr. Tolles writes us as follows, sending the accompanying cuts :







It is true Mr. Wenham has since published .025″ as the focus of this objective for objects in balsam (he seems to mean the edges of the slit) under thin cover. The first focal distance of .018″ was given deliberately more than a year after his screed on the ⅙th, and, in fact, he only needed to measure correctly the thickness of the plate of glass he focussed through to be very nearly exact as to the real corrected focus. The .018″ comes of a *rigid and certain* method, while the other .025″ comes of a loose and uncertain plan, and, being in "contradiction" of the first, is false. R. B. TOLLES.

Boston, June 20, 1876.

A CORRECTION.

224 Regent Street, London, June 8, 1876.

To the Editor of the CINCINNATI MEDICAL NEWS.

SIR :—In the letter you did me the honor to publish in your Journal for May, on page 335, by an oversight, for which doubtless I am responsible, 88° is given as the balsam-angle deducible from a base line of .043 inch with focal distance in glass of .018 inch. It should have been 100°.

I am, Sir, yours respectfully, JOHN MAYALL, Jr.

MICROSCOPE FOR SALE.—A good Student's Microscope, with first class accessories and objectives, by well known maker. For particulars address DR. GEO. E. BLACKHAM, Dunkirk, N. Y.

TRANSLATIONS.

By W. A. ROTHACKER.

TRAUMATIC TETANUS—AMPUTATION—RECOVERY.

A man injured the terminal phalanx of the fourth finger with a piece of broken glassware. The wound occurred on January 1st. It healed readily; on January 16th he began to have indications of tetanus. He was taken to the clinic of Prof. Duchet (Vienna). He presented unmistakable signs of traumatic tetanus. The paroxysms could be brought on by pressure on the cicatrix. All medication proving useless, the phalanx was amputated, and the patient at once showed signs of improvement and rapidly recovered. Microscopic examination showed nothing peculiar about the cicatrix. It appears from the statistics that amputation in cases of traumatic tetanus has been quite a successful operation. In twenty-four amputations, compiled by Frederick, fourteen recovered (*Wien. Med. Woch.*, No. 19).

ASTHMA DYSPEPTICUM.

Prof. Hennoch (*Berlin Klin. Wochen.*, No. 18) relates some very interesting cases in which asthmatic symptoms were developed in children as the result of disturbances of the stomach.

CASE I—Was that of an infant, nine months old, which had been weaned for ten days. The food of the child was cow's milk properly diluted. One day after being fed it was seized with violent vomiting. This recurred again on the next day. On the third day the vomiting ceased, but a new set of symptoms appeared. There was an anxious look about the face; the respirations were rapid; the pulse was small and difficult to count; the skin was blanched and the lips cyanosed. A careful examination of the lungs and heart revealed nothing abnormal. This state of things continued until evening, when the symptoms became more aggravated. The cyanosis was more marked, the respirations, which had reached the number of 60 per minute, were attended with working of the nostrils and the muscles of the neck. In the extremities the temperature had fallen. At midnight the pulse could not be counted, and the respirations became irregular. After various remedies had been administered without effect, ten dry cups were applied to the chest walls. This application was followed at once times the case. The appearances can only be accounted for by the action of the stomach—irritation on the nervous system. It has been proved by the experiments of Maver and Pribran on animals, that irritation of the stomach will produce slowness of the pulse, and increased tension in the arterial system. These effects they attribute to an influence communicated by means of the pneumogastric to the vas-motor apparatus. In proof of our belief we would call to mind the many cases where eclampsia in children has followed indigestion, the mechanism in these cases being contraction of the smaller arteries of the brain and consequent anæmia of this organ. There have been cases observed where taenia have brought about all the symptoms of collapse in a child. The question remains open whether there is not another way by which stomach irritation may bring about difficulty of respiration. I have observed a case in which dyspepsia in a child gave rise to asthmatic symptoms, but in which there was no evidence of contraction of the smaller arteries. In the case of dyspeptics we often observe that without any distension of the stomach or colon, there is difficulty in breathing, which seems to consist in a desire to take a deep breath and an inability to do so. These attacks might be explained by reflex action through the pneumogastric, as in some cases of intermittent action of the heart from like cause.

Editorial.

Commencement Exercises of the Cincinnati College of Medicine and Surgery.—The Commencement exercises of the spring and summer session of the Cincinnati College of Medicine and Surgery, (the fortieth) took place in the large emphitheater room of the college, on Monday evening, June, 19. The room was filled to repletion by the friends of the graduates and of the school. As is usual with the Commencement in June, in consequence of the very sultry weather, no efforts had been made to collect together a large audiance, and the large number present, therefore, on this occasion came together of their own accord, no invitations having been issued.

The exercises were opened by prayer by the Rev. W. H. Black.

After prayer, the Dean, Prof. D. D. Bramble, M. D., made some brief remarks, as follows:

"The onward march of time has again brought us to the close of the labors of another session, and we have again the satisfaction of exhibiting before you the result of those labors. Every occasion like the present, fulfills more and more the wishes which, in conjunction with my colleagues, I share as to the present and future of our institution, and stimulates us to still further efforts. It is a source of the greatest pleasure to the Faculty that, notwithstanding the severe depression and almost universal stagnation of buisness, there has been gathered together within these walls during the course, of which this is the closing scene, so large a number of diligent searchers after knowledge, and that so great a percentage have proved by proficiency that they have fully earned the high honor which we are here this evening to see conferred upon them.

"It is not my purpose to occupy your time on this occasion, as there are others to follow me who, I am sure, will be able to say more of interest to you than I can by stating in words, that of which every friend of the College has ocular demonstration, namely, the satisfactory progress we are making.

"Gentlemen of the graduating class, you are about to leave us, perhaps forever, some of you to go to the most distant parts of the United States, and some to places outside of our own government. I have this request to make—do not imbibe the idea that having earned the proud title of "M. D." that this is all you should desire. Let your motto ever be "upward and onward," always remembering that the higher you ascend in your noble profession the greater honor you will reflect upon your Alma Mater."

At the close of his remarks, Prof. Bramble announced that the degree of Doctor of Medicine would now be conferred by the President of the Board of Trustees upon the gentlemen who had fulfilled the requirements of the school, and passed a satisfactory examination. On the calling of the names by the Secretary, Prof. J. A. Thacker, each candidate arose to his feet. When the Secretary had finished, fifty-one were standing to receive the honors of the school.

The Rev. F. S. Hoyt, D. D., editor of the *Western christian Advocate*, the President of the Board of Trustees, addressed the graduating class in some pertinent remarks. We would be very glad to publish in full all that the gentlemen had to say, but our space will not permit. Suffice it to say that he stated that it afforded him much pleasure to learn from members of the faculty, that the present graduating class was above the average standard of medical graduates in proficiency in their studies, mental attainments, zeal, industry, etc. He hoped that they all would continue to distinguish themseves, and ultimately ascend to the highest pinnacle in their profession. In well chosen words he urged upon them to cultivate both their minds and their hearts, and thus fill up their full measure of usefulness.

At the close of his remarks he proceeded to confer upon each member of the graduating class the degree of M. D., handing each one a diploma. We here give the names of the graduates, the thesis of each one, and his place of residence. It will be noticed how many of the States were represented:

NAMES.	THESIS.	RESIDENCE.
BARRETT, JAS. H	Nutrition and Secretion	Berlin, Ky.
BALES, E. J	Opium	Sacramento, Cal.
BEATY, WM. H	How to Conduct Labor	Bean Blossom, Ind.
BENNETT, J. E	Acute Rheumatism	Clifton, Ind.
CALHOUN, B. L	The Requisites of a Physician	Parnassus, Penn.
CAMPBELL, A. B	Reproduction	Belmont, Canada.
CHIPMAN, N. B	Pneumonitis	Williamstown, Ky.
CHESHER, C. B	Tuberculosis	W. Middleburg, O
COMER, D. J	Typhoid Fever	Millerstown, O.
CRISWELL, JOHN H.	Asthma	Mount Gilead, O.

Davison, Jas E.	Puerperal Eclampsia	Ann Arbor, Mich.
Diefendorf, L F.	Typhoid Fever	Pisgah, Mo.
Ditzler, M. D.	Apoplexy	Huntsville, O.
Dixon, J. N.	Post Partum Hemorrhage.	Columbus, Iowa.
Dunbar, H. T.	Puerperal Fever	Windham, O.
Ferguson, H. C.	Phthisis Pulmonalis	Catlettsburg, Ky.
Francis, Wm. A.	Intermittent Fever	Green Hill, Ky.
Gustine, Geo. A.	Chlorosis	Luzerne, N. Y.
Hathaway, C. L.	Yellow Fever	Boston, Mass.
Hull, Thos. A.	Inflammation	Belmont, Canada.
Jones, J. Judd	Erysipelas	Oxford, O.
Jones, Richard O	Physical Exploration of the Chest	Cambria, Wis.
Jones, C.	Meningitis	Rushsylvania, O.
Kapp, C. F. Jr.	Aneurism	Ann Arbor, Mich.
Kerr, C. S.	Pulmonary Tuberculosis	Ebenezer, Penn.
Koch, Edward	Carcinoma Ventriculi, its Pathological Conditions and its Occurrence	Dayton O.
Loder, Chas. C.	Endometritis	Warrington, Ind.
Lowry, H. B	Abortion	Proctor, W. Va.
McCormick, F.	Medicine, its Progress and Abuse.	Kittanning, Penn.
McKee, J. C.	Diphtheria	Cochran Mills, Pen
McKellar, A. R.	Spermatorrhœa	London, Canada.
McLachlan, D. P.	The Medical Profession	Ann Arbor, Mich.
Mitchell, D. C.	Menstruation	Rushsylvania, O.
Moser, Jas. P.	Intermittent Fever	Bean Blossom, Ind
Monosmith, G.W.	Reproduction	Penfield, O.
Mullendore, A.	Intermittent Fever	Brookville, O.
Myers, W.	Cholera Asiatica	Cincinnati, O.
Nugent, Jno. G.	Hermaphroditism, and its Medico-legal Relations	Hempstead, Can.
Oneal, Laughlan.	Membranous Croup	Somerset, Ind.
Pressey, A. J.	Pneumonitis	Englishville, Mich.
Randall, W.	Inflammation	Lorain, O.
Rose, F. A.	Grandeur & Progress of Medicine	Elyria, O.
Shultz, J. T.	Inflammation	Annapolis, O.
Smith, C. D.	Digestion	Summit, Mich.
Stewart, Wm. H.	Rubeola	Pittsburg, Penn.
Swimley, W. A.	Eclampsia	Springfield, O.
Varier, J. A.	The Examinations of Patients	Bourbon, Ind.
Wall, J. J.	Lactation	York, O.
Williams. J A.	Draining for Health	Canada.
Wilson, W. G.	Scarlatina	N. Wilmington, Pa
Wright, Chas.	Incompatibles	Shelbyville, Ind.

After the conferring of the degree by the Rev. Dr. Hoyt, Prof. R, C. S. Reed, M. D., Professor of Materia Medica and Therapeutics, proceded to deliver the Valedictory Address on the part of the Faculty. At first he addressed the audience, replying to the oft-repeated expression that it did not require much labor to become a "doctor." He showed by describing the course of study pursued in the Cincinnati College of Medicine and Surgery, which was the same, to a greater or less extent, in all the best regular colleges of the country, that it required all the time of three years' study of an intelligent student, whose mind had been disciplined to study, to attain to the doctorate. It would be interesting to give the sketch of the Professor, but we must forego it at present.

In addressing the graduates, Professor Reed stated, that as much time had been spent during the course of the session just closed in listening to what they should do, he would now take up the time in telling them what not to do.

We will publish the portion of Prof. Reed's valedictory particularly addressed to the graduating class in our next issue.

At the close of the valedictory Mr. H. B. Lowry, Ph. B., a member of the graduating class, delivered an address on behalf of his fellow graduates. His effort was far superior to anything of the kind we ever listened to. It was delivered without the aid of manuscript, and was excellent in diction, polished, and of a high tone. The audience was highly pleased, and favored him with a hearty applause at its conclution. In appropriate language, in behalf of the class, he thanked the Trustees and Faculty for the zeal they had displayed in affording them every opportunity to gain a medical education. He said that they would always hold in grateful remembrance the utiring industry of the professors, as exhibited in the daily lectures—how they spared no labor to lead them up the steep ascent of medical science. He promised that the class would always cherish the memory of their Alma Mater, and would labor for her welfare. His advice to his fellow gratuates was excellent. He urged them to seek a high position in the profession and to deserve it by their solid attainments and upright, honorable conduct. The profession of medicine was a noble one, and should be filled by noble men—men of dignity, of character, unspotted lives, who love virtue and all that is good.

The exercises were closed by the benediction. We can truly say that we never attended a Commencement so pleasant as this one.

A New Appliance for Bloodless Operations.—Mr. H. L. Browne, surgeon to the West Bromwich Hospital, proposes in the *Lancet* for June 3d a very useful modification of Esmarch's bandage. A suitable rubber ring is rolled along the limb and over a plug placed on the main artery. This plug is provided with a groove upon its upper surface which receives the ring and keeps it from shifting. The rings are made of different sizes, as are also the plugs, although the latter are only used over the larger arteries. The apparatus may be used as an ordinary tourniquet, by stretching instead of rolling the ring over the limb and plug.

The Inaugural Address of the President of the American Medical Association held at Philadelphia, June, 1876.—After congratulating the delegates on the privilege of meeting in Philadelphia, in the Centennial year, and joining in the Centennial celebrations, the speaker said that they were standing on hallowed ground—hallowed because the birth-place of a nation. A century was a brief period in the history of nations, but in that time we had increased from three millions to more than forty millions of people, and had made our mark in science and letters. Although the organization of the Association was conceived in New York, its actual birth-place was in Philadelphia, twenty-nine years ago, its first scientific meeting being in Baltimore, in 1848. Formed mainly for the purpose of improving the medical educational interests of America, it had exerted some influence in the direction intended. Although it had failed to meet the ardent expectations of its projectors, it had nevertheless vindicated its claims to the rank of the representative medical body of the country. It was not, however, due to any want of disposition to effect reforms in medical education that not more was effected. In fact, it had engaged the attention of the Association at every meeting since its formation, and volumes had been written on the subject. Dr. Wm. O. Baldwin, of Alabama, president of the Association in 1869, in his inaugural address had ably set forth the defects of the present method of medical education, and had proposed as a remedy the establishment of a great national university, under government auspices, at the capital. If the large sum necessary for such a university could be obtained from the government its graduates would doubtless rank with those of the best foreign universities. He had felt greatly interested in Dr. Baldwin's scheme and had been anxious to see it carried out. To this end he had consulted some of the wisest and ablest educationists in the country, and had also taken counsel with some of the great political leaders of the day ; but he regretted to say that he had found so little sympathy with the project that he had been unwillingly forced to let the subject rest in abeyance for the time being. The Harvard method, with salaried faculty wholly independent of fees from students, was, in his opinion, the only plan by which a medical degree of any real value could be gained. Five or six hundred thousand dollars given to the medical department of the University of New York, or to either of the schools of New York or Philadelphia, properly invested, would yield an annual income sufficient to endow the professorships in said school. This would make the professors independent, and they would not be compelled to graduate young men merely for the sake of the numbers graduated, irrespective of qualification. The University of Virginia was, perhaps, the best training-school in the country, but unfortunately its want of hospital advantage crippled its practical teaching.

In speaking of the practical application of the provisions of the Code of Ethics he doubted if the latter were wholly up to the present requirements. For instance, he questioned the wisdom of preventing medical patents. He asked why any man should be debarred from taking out a patent for a useful invention merely because he happened to be a physician. Did the profession at large, or did the public, derive any benefit by the robbery of the inventor ? None whatever. He was simply compelled to give his invention, time, and labor to the instrument maker.

Again, the Code of Ethics was violated every day, either wilfully or ignorantly, not only by the rank and file, but by men high in the profession ; men who were considered leaders, advanced thinkers, and workers. How many of those present prescribed chlorodyne, McMunn's elixir of opium, Henry's calcined magnesia, and the Tolu anodyne ? Yet they were secret remedies. The prescription of oll such remedies was a flagrant violation of their Code of Ethics. But they seemed to condone the act because usage and interest justified it.

The subject of state medicine was next touched upon as one of the greatest importance, and he remarked that the address of Dr. Bowditch, foreshadowing the practicability of inaugurating a movement for the establishment of a National Health Bureau, commended itself to the attention of the members so far as the initiatory formation of state boards of health was concerned.

In conclusion, he alluded to the vexed question of legislation against syphilis and prostitution, condemning the legalization of the latter, and advising all the matters connected with the spread of the disease to be handed over to the health boards.

W. R. Warner & Co.'s Preparations.—We have for a long time advertised the preparations of Messrs. W. R. Warner and Co.'s preparations, and we have frequently commended their use to practitioners as being worthy of their confidence. We learn that they have received the prize medal at the Chilian World's Fair for the superiority and perfection of their Soluble Sugar Coated Pills.

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Original Contributions.

AN ADDRESS TO THE GRADUATING CLASS.

Close of the Fortieth Session of Lectures in the Cincinnati College of Medicine and Surgery, delivered in the amphitheater of the college, June 19, 1876.

By PROFESSOR R. C. S. REED, M. D.

Gentlemen of the Graduating Class:

My colleagues have directed me to say a few words to you before the close of the exercises of this eventful evening. Be assured, gentlemen, the duty they have thus imposed is to me very agreeable, for it affords me an opportunity in their name to congratulate you, to extend to you the right hand of fellowship, and to welcome you into the medical profession.

Many of you have been here two, some three, others four, sessions, during which time you have labored in a preparatory department. Your labors in this department have ceased, you are now members of the medical profession, and as such you are entitled to all the privileges and protection which the law concedes to every doctor of medicine. During the long time you have spent at this institution, mutual feelings of friendship have been created which we trust will be lasting. Yet, notwithstanding this, I cannot on this occasion give vent to lamentations on account of the separation which must take place. I rejoice that we have reached the end of the session. I shall be glad to see you going, and I know my colleagues will rejoice at your departure. Had you been less prompt in your attendance on lectures, less attentive to your studies, and less anxious to be informed on all subjects which would afford you professional knowledge, we would be less willing to have you go away from us. We rejoice at your departure because we have confidence in your ability to sustain yourselves in the practice of medicine and surgery, and at the same time to reflect honor on your alma mater. Gentlemen, I do not propose on this occasion to talk to you about science, for my colleagues have given you a surfeit of it during the session, but I want to say a few plain things to you in a plain way, which, if rightly observed, will enlarge the measure of your success. During our intercourse as students and teachers we have been telling you all along what you should *do*, now I desire to tell you, for the most part, what you should *not* do.

1st. In your intercourse with society do no act nor express an idea which will offend against any moral precept, or detract from the most polished gentleman Some physicians injure their influence in a community by talking party politics, others by discussing disputed religious questions, and others again by giving undue attention to town or neighborhood gossip. Better enforce your political notions by a strict observance of the laws, and a proper exercise of the elective franchise; demonstrate your ideas of religion by leading an unexceptional, moral, and devotional life, and frown upon neighborhood talk by refusing to engage in it.

2nd. In your intercourse with the profession do not yield an unwilling obedience to the code of medical ethics. Some doctors, especially young physicians who are eager to get practice and acquire reputation, nominally accept its plainer provisions, while they continually violate its spirit.

3rd. Do not cultivate the habit of speaking in great praise of your own achievements and in disparagment of the efforts of others. This habit may be congenital or acquired, but, in either case, it is liable to lead to false estimates and untruthful statements. A notable instance illustrating this habit and the reward tendered to those who indulge in it, was observed a few months since during the commencement exercises of one of the medical institutions of this city. A gentleman, by nature cold and selfish, in whom this habit seems to be of spontaneous growth, attempted to perpetrate a fraud by reading to an intelligent audience an untruthful and otherwise offensive address. His effort injured no one so much as himself. The profession ridiculed it, laughed at the audacity of its author, and gave to him such notoriety as is always extended to him who bears false witness against others. Be admonished that you should not speak more highly of your labors and positions than truth permits; and, gentlemen, you should always be true in rendering praise to others. Modesty requires this. Remember self-praise is half scandal.

4th. When required to put forth unusual efforts to meet professional demands, do not resort to the use of alcoholic stimulus to arouse and sustain the flagging powers of nature. Such a practice is not only deceptive but ruinous. A few only who adopt it are saved from a life of dissipation. Some of our most promising physicians are in this way being sacrificed on the altar of Bacchus. This is painfully apparent to those who are compelled to witness the dram drinking and drunkenness seen at our state and national associations.

5th. Do not enter any combination organized within the profession for self-promotion and self-aggrandizement. Such combinations grow most rank and offensive in large cities, and around our eleemosynary institutions where they trample on justice and defy the restraints of law. Possibly there may be an exception, but, as a rule, they are produced by ambitious and unscrupulous schemers who, conscious of individual weakness, make an effort to secure by combination positions which should be given, and which of right belong to, their more meritorious but less impudent professional brethren.

A notable instance, developing the workings of these combinations, is found in the history of one of the hospitals of this city under its present management, which includes a period composed of the last fifteen years. Its present board of trustees is composed of individuals who represent varied interests, and who are for the most part the champions of medical cliques and political rings, aggregated for mutual support. If supplies are needed the contracts are given to members of the rings. If a judge is to be elected in whom is vested the power to appoint the hospital trustees, all support the ring candidate. If a trustee is to be appointed the judge selects from the rings and the cliques. If a staff is to be selected the cliques only are consulted. If internes are needed none are chosen but such as have, tacitly, purchased from the staff answers to the questions which are to test their qualifications for the place. It may be true that some persons of honest intentions do enter these combinations, who may do wrong on account of incorrect information or perverted judgment; and others may be unable to give force and expression to their convictions on account of weak will power. As private citizens such persons may make desirable members of society, but not so in these institutions. Here they are made to toy around their bad associates in a manner which is most humiliating. Examine any and all institutions managed as the one to which reference is made, and you will find the rulers for the most part in a state of abject slavery to the power which gave them place. They know no law beyond that which is declared in the express will of their masters. They dare not give expression to honest conviction of justice in contravention of the will of the majority. They are emasculated in will and in individuality.

In this connection I might refer you to a gentleman who is a member of the board of trustees of an institution controled by one of these combinations. This gentleman has publicly invited criticisms on his official acts, and promised to profit by them, but when he is shown the part he has taken in the partialities, the proscriptions, the nepotisms and the unlawful acts practiced by his board, he fails to open his mouth or raise his pen in defense of his record, and he equally fails to profit by the showing. He continues in the rut made for him by his masters. This is a sad picture, but it is not overdrawn; all the facts would add to its gloom. Gentlemen, stay away from these combinations as you would from the pitch that defiles. Avoid them as you would a moral leprosy which would add to the sorrow of weeping dear ones while standing around your encoffined remains.

6th. Do not too greatly rely on your own experience and observation where they widely differ from the recorded experience and observation of the profession for ages past. Before you abandon the latter and cling to the former be sure that you have complied with all the requirements necessary to arrive at correct conclusions. Errors like this are most damaging to superficial thinkers, especially to those possessed of a weak sense of moral obligation and great love of conspicuity. These float off from the profession as a sort of froth or scum, and are drained away into those cesspools in which are found ignorance, pretention, and duplicity, united under the names of schools of medicine for the reformation of medical science. Here let me remind you that the regular medical profession has a broad platform of principles, on which there is room for every honest man to stand. In its resources for means with which to prevent, palliate and cure disease, it is not confined to any land or state, but extends throughout all the kingdom of nature. You may search land and sea, you may descend deeper into the earth, or rise higher into the heavens, or you may exhaust human energy or human ingenuity for the production and discovery of something new and better; all that the profession will require of you before adopting your improvements and discoveries will be to successfully defend them in the forum and the council-room, and to demonstrate their superiority at the bed-side of the sick. There is not now, nor will there ever be, recorded within the world of letters an idea which may not, if it can be thus demonstrated, become a part of the regular medical profession. If this be true, then it follows that there can be given no sufficient reason for any other system of medical practice; and the action which has produced any and all of the so called systems of practice, in antagonism to the one you have been taught, must come from a desire to use society for selfish gain, and not to cure its members of physical ailments. Facts establishing the truth of this proposition can be gathered from almost any community where flourishes this irregular practice. Let your attention be directed—1st, to the limited professional knowledge possessed by persons thus engaged. They indulge in much medical gab, but exhibit little medical lore.

2nd. To their habit of magnifying the importance of medical treatment for trifling ailments, they congratulate the patient on their opportune arrival: an hour later and his chances for recovery would have been annihilated.

3rd. To the great number of comparatively healthy families which, under their influence, have become families of chronic invalids.

4th. To the records of our criminal courts, where you will find that nine-tenths of the criminal abortions there recorded have been produced either directly or indirectly by these irregular practitioners.

5th. To their whinings in the community for sympathy when their duplicity is uncovered, their ignorance exposed, and their crimes pointed out. Lest I be misunderstood, let me pursue this digression a little further, while I remind you that all who claim connection with these so-called schools of medicine are not destitute of the powers of reason: they are not all fools—some are knaves. In many instances the former have had such rapid development that they have become doctors during their transit from one town to another; the latter, though educated, but smarting under ethical restraints, go away from the profession, when they commence a mercenary career, which too often is but a career of crime. The former should be pitied on account of ignorance; the latter despised on account of duplicity and knavery. Therefore, gentlemen, when an individual says to you, as many will say, that he is of the old school reading, but has found a better way to cure people of their suffering, set him down as an individual who has assumed the role of the fool, in which to play that of the knave, and from such be ye separated, and touch not the unclean thing.

6th. Be not idle workers in the medical hive; you have chosen a profession that is worthy of all your powers. Do not think that you can neglect the study of medicine because you have been received into the medical profession. You are now the plighted friends of suffering humanity. Fidelity to your trust can be maintained only by a complete separation from all conflicting or damaging pursuits. As an earthly employment let your lives be wholly consecrated to your profession. To this end you must be students for life. Labor for the improvement and purification of your profession. Look over the long list of names now on the roll of honor, where they are destined to remain, shining brighter and brighter through all coming ages, and take courage. From the time of Æsculapius and Galen, Hippocrates and Plato, Aristotle and a hundred more down to the present time, every age has had its great physicians, and every country its great doctors. Who will be the great physicians and who will be the great doctors in this country for the age in which you live are questions we are permitted to ask but not to answer. The answers must come from future generations, but you are permitted to enter as competitors for the place. Will you do it? All of you may not be able to stand in history side by side with the ancient worthies to whom reference has been made, or with Hunter and Harvey, Jenner and Cullen, Pinel and others of more modern date, yet, if you shall prove true to yourselves and to your profession, when the history of your generation shall take its place in the history of the world, your names will appear on the record as honored members of an honorable profession.

Gentlemen,—You are young, ardent and hopeful ; years pregnant with mighty results are before you. Behold, the world beckons to you, science invites you, and the demands of your profession urge you on. Be industrious, be zealous, push forward with the audacity of genius, and success will crown your efforts.

And now, gentlemen, before we finally separate, allow me to recommend for your acceptance another course of instruction. The session may be a long or a short one, but in either case it will be profitable to you as practitioners of medicine, and as members of society. Indeed in every condition of life it will contribute to your happiness. To those of you who have not already done so, let me say matriculate at once and enter upon this course.

Within the curriculum of study are embraced the principles and practice of virtue ; the principles and practice of temperance ; the principles and practice of kindness ; the principles and practice of patience, and the principles and practice of love to God and love to man. The commencement will not be held until after you shall have completed your medical career. The evidence that you are qualified to graduate will not be on perishable parchment, but it will be reflected from a crown of life. This crown will not bear the signatures of those authorized by the law of the land to certify to your qualification, but it will have the impress of the signet of Him by whom the worlds were made. It will not direct you to go forth to war against an enemy which must ultimately be victorious, but it will give you title to an inheritance—to an everlasting inheritance—where there will be rest from your professional labors, where there will be peace and happiness such as are not known in this world, and where there will be neither sorrow, nor pain, nor death.

Gentlemen, in the name of the Faculty I now bid you farewell.

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STERILITY FROM A GLANDULAR CERVICAL POLYPUS.

By James Barnsfather, M. D., Cincinnati.

The patient in this case was a lady aged 23 ; of medium height, and slender, with highly nervous organization. She had been married nearly two years previous to my first consultation with her. When brought to my office she was menstruating slightly, but came to consult me in reference to certain bearing down pains she had. These were intermittent in their character. Her attendant suggested that perhaps she was in the family way, and was about to abort. Was entreated by her to do my utmost to prevent it, as they were most anxious that she should have a child. On inquiry, I found that she had suffered similar pains one month previously. I then informed them that it was absolutely necessary I should make a physical exploration of the parts, in order that my diagnosis might be correct. This was granted. The bimanual examination revealed distension of the hypogastrium, with slight development of pain on pressure. The neck of the uterus was swollen. I also found a soft tumor attached to the posterior lip of the cervix, about the size of a cherry ; it had a broad base which extended into the cervical cavity, blocking up mechanically the orifice of the os tincæ. I informed her that she was not in the family way, but that she had a growth on the mouth of the womb which prevented the free exit of the menstrual flow, hence the spasmodic efforts of the uterus to overcome the obstruction. I also stated that no cure could be effected unless the tumor was removed, either by the knife or cautery, and then breaking down the indurated base by suitable treatment. She stated she would never consent to the knife, but if it could be removed by other means she would submit to the treatment, even if it took a much longer time.

A few days afterwards she called and stated that the menstrual flow had ceased, and she was ready for treatment. I inserted a speculum and freely cauterized the tumor and os. This was repeated six or seven times during the month with the happiest results. After the next catamenial flow had ceased, she called and informed me that she had had a good flow, and had suffered very little pain indeed. For the next few days I kept the parts constantly lubricated with an ointment containing hyd. sul. iod. As soon as the hyperæmia had subsided, I commenced the treatment of the cervix. This lasted twenty days. During that time I inserted ten sponge tents, (assorted,) leaving each in the canal twenty-four hours, and tampons were applied during the intervening time. The tents, previous to insertion, were coated with a preparation containing iodo-chloride mercury. The tampons were also medicated. On the twentieth day she informed me she had all the symptoms usually attending the appearance of the catamenia. On that morning I made a digital intra uterine examinination, but found nothing abnormal. The hyperplastic enlargement of the cervix had disappeared. The flow continued five days. There was no pain.

Fifteen days after the cessation of the flow I was consulted in reference to a "show" which had appeared subsequent to an eclamptic convulsion. It continued five days. *These convulsions recurred regularly every twenty-eight or thirty days up to the full term of gestation.* Another show appeared at the end of the seventh month and lasted one day. On the two-hundred and seventieth day after her first convulsion, I delivered her of a healthy well developed female child. As I apprehended an attack of eclampsia during the labor, I watched the case closely, and as soon as dilatation had advanced sufficiently, I ruptured the membranes and delivered. At that moment she told me that the "spell" was coming on, I immediately removed the placenta. In a few minutes she stated the symptoms were leaving her; the spasm passed off. In conclusion I may state that it is now four months since this event happened, and I am happy to say the convulsions have not returned. Mother and child are well.

Cazeaux—Art. Eclampsia, page 791,—says: "This affection is very unusual in the early months of gestation. M. Dauyan, Sr., met with it in a young girl who had only reached the sixth week. A lady of Ferrara was periodically attacked by convulsions as soon as she had conceived, and these attacks were renewed every two weeks throughout pregnancy. It is very doubtful, however, whether her case was one of true eclampsia. As a general rule, they are quite rare prior to the sixth month, are particularly frequent during parturition, and they appear somewhat oftener after delivery than during the gravid state."

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SALICYLIC ACID FOR OFFENSIVENESS OF BREATH AND EXPECTORATION.—Dr. Da Costa, *Medical and Surgical Reporter*, prescribes salicylic acid, five grains, dissolved by means of a drachm of glycerine in a half-ounce of water, taken three times a day, in cases where the breath or expectoration are offensive. If internal administration does not accomplish the desired result, it can be used with the atomizer in a solution of similar strength.—*American Practitioner.*

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Selections.

ADDRESS AT THE JUNE MEETING OF THE BATHURST AND RIDEAU MEDICAL ASSOCIATION, PERTH.

By J. A. Grant, M. D., F.R.C.S., Edin., President.

Gentlemen,—Five months have now elapsed since our meeting at Ottawa City. During that time the active intellectual capacity of the "working men" of our noble profession has been occupied, and the results of honorable labor scattered broadcast throughout our British American and Canadian publications. Doubtless the new material of thought has already been before you, and has received timely consideration. To-day I shall briefly occupy your time by adveting to some facts, medical and surgical, more as a refresher in the midst of our professional duties, and at the same time to elicit the observation and experience of those members of this Division equally interested in the promotion of scientific professional work. "Bleeding," within the last twenty years in the treatment of acute inflammatory diseases, has undergone marked modifications, some of which are of doubtful character. The day was when the lancet was used too indiscriminately, and in many instances the injurious results, no doubt, led to the almost entire suspension of one great means of arresting the progress of inflammatory action. It is a well known fact, at present, on both sides of the Atlantic, that the mortality from pleuro-pneumonia, peritonitis and other inflammatory attacks of vital organs is very considerable in previously robust and vigorous subjects. In England so much has this been the case that bleeding, even in the first stages of acute diseases, condemned in hospital and private practice, is now being justly and ably reconsidered, by master minds in pathology and physiology. The address of Sir James Paget, before the meeting of the British Medical Association in 1874, at Norwich, is pregnant with valuable practical observation, in which he places considerable stress on the importance of bleeding, when adopted under the guidance of sound medical intelligence. Again we have the published papers of Dr. Richardson, F.R.S., on the same subject, in which he adduces cogent facts to substantiate the benefit and advantage of bleeding in many acute diseases. In 1856, Professor Alison wrote in the Edinburgh *Medical Journal*, that our advanced knowledge of diagnosis and pathology had little to do with the great revolution in treatment, but that the "human constitution" was fundamentally altered, and that medical men were as right in bleeding twenty years before his day as they are correct now in not having recourse to the "lancet." Stokes of Dublin, has since expressed the same idea in modified terms. Cullen and Gregory have been ridiculed by their successors from their supposed want of a knowledge of the true physiology and pathology of the great inflammatory process. Their ideas, however, crude and rudimentary as they were, had at their base some strong principles of common sense. In 1840, Sir Henry Holland stated that "current opinions and prejudices were wholly on the side of bleeding," and that a physician needs all his firmness to decline the practice. To-day we are aware of the fact that bleeding is considered *not fashionable*. Dr. Bennet, of Edinburgh who, prior to his demise, deprecated the practice of large bleedings, admitted that moderate bleeding may be useful in palliating certain symptoms, particularly in the treatment of *uterine affections*. Tilt, in his "Uterine Therapeutics," refers particularly to the benefit of moderate bleeding in plethoric patients, when the uterine function is associated with pelvic pains and well-defined dysmenorrhœa. His experience points to bleeding in such cases a few days prior to the "Catamenia." Dr. G. Bedford also favors bleeding in certain diseases of menstruation. With the advanced medical education of the present, and the various means at our disposal for the diagnosis of disease, would we not likely fall into the error of bleeding the chlorotic and nervous, and how necessary is caution in this small operation, when we recognize the fact that *plethora* may exist with apparent weakness and be greatly relieved by bleeding. We have all seen and treated acute cases of pneumonic disease, during our Canadian winters. For many years I adhered to the observations of the late Dr. Bennet and others, but circumstances have caused me to change my ideas somewhat and have recourse to the lancet. My notes of several cases of acute pulmonary congestion point to marked benefit from early bleeding, and I am satisfied that there are few cases of acute local congestion, in robust subjects, in which bleeding, if adopted sufficiently early, will not be productive of beneficial results, tending towards the suspension of excessive vascular action and the prevention of tissue disorganization. Sir Thomas Watson, (May 1875, *Med. Times*) writes: "The complete disuse (of bleeding) was in his judgment a more serious mistake than over use had been." Under these circumstances it would be well in our medical district, to observe as closely as possible and report upon the present influence of *bleeding in acute diseases.*

Of the various diseases which come under our notice in this part of Canada, "rheumatism" is not by any means the least uncommon. The sudden transition from summer to winter, and the want of proper care in keeping up the normal temperature of the body, by warm flannel clothing, add greatly to the frequency of such attacks. In addition to these causes I have frequently observed, both in hospital and private practice, that the excessive use of spirituous liquors, was a prolific source of this disease, in its various forms. According to the recognized pathology of rheumatism there is a certain constitutional state dependent on deranged digestion, during which exciting causes occasion local effects, and thus a *disturbed balance* is brought about between the excess of lithic acid and the power of excretion by the skin. Although the generally accepted idea of the pathology of rheumatism points towards a blood disease, there does appear to be difficulty in defining the precise manifestations of a well defined acute attack, where in addition to the usual constitutional symptoms there is local pain, heat, redness and swelling. Professor Bennet, of Edinburgh, after most careful observation, came to the conclusion (*vide Clinical Med.*) that the real pathology of acute rheumatism has yet to be determined, and, as a preliminary step, a careful histological examination of the affected tissues was absolutely necessary. Rheumatic poison has a most singular predilection for three textures of the body; two of which are chiefly involved in locomotion, and the other the important covering to the most vital part of the entire system. Again, fibrous, serous and even muscular tissues are, under a normal state of the system, nourished, supported and repaired, in proportion to their structural peculiarities. Thus have I endeavored to account for the difficulty experienced in this disease around the joints. In the laboratory of the human system the chemical changes are varied and remarkable, and during abnormal inflammatory action, how greatly in such structures must the process of vital activity be retarded, delayed, and complicated. During the last half century, no disease has called forth for its relief a greater variety of remedies. Of the new, one of the most popular at present in rheumatism is salicylic acid, just introduced to the profession by Staff Surgeon Stricker, of Berlin, January 3rd, 1876. The results in the wards of the late Professor Traube, of Berlin, were exceedingly satisfactory, and from the reports published is the following statement: "*All the patients treated* were not only relieved of their fever, but also of the local symptoms, that is, the swelling, redness, and especially the painful joints, within forty-eight hours, most of them within a much shorter period. The largest quantity of pure salicylic acid which was found necessary to produce the effect was fifteen grammes, and the smallest five grammes; but that even larger quantities can be taken internally. Dr. Stricker does not pretend to express any opinion at present on the effect exerted by the acid on the cardiac complications of rheumatic fever. Dr. L. Reiss, of Berlin, points out that the action of salicylic acid must be more than purely symptomatic, since in some cases a single dose, not only permanently reduced the temperature, but also was followed by general improvement in the patients condition. Professor Kohler, of Halle, has investigated the action of salicylic acid carefully, and the results of his observations point to the important facts, that both salicylic acid and salicylate of soda, when injected into the blood of rabbits, cause a fall in blood pressure; a diminution in the frequency of the pulse and respirations. The soda salt acts equally well whether injected into the jugular vein or taken into the stomach, whereas the solution of the pure acid in water has no effect, when given by the stomach, either as to lessening the pulse or reducing *blood pressure*. According to Kohler, it is considered almost certain that salicylic acid becomes converted into its soda salt by combination with the alkalies present in the intestinal secretions, and that it is thus absorbed into the blood, and produces its physiological action. The data of Riess, Goldhammer and Nathan do not exactly agree; however, the impression now formed is, that salicylate of soda is most likely to become a valuable anti-febrile remedy, and Professor Kohler predicts for it a great future as a means of reducing the temperature of the body.

Time and experience will alone settle the place and power of this new and interesting compound—and if in perverted laws of nature, and the disturbed chemical affinities of the system, so remarkable in "rheumatic fever," this acid and soda base can rapidly and certainly regulate the systemic disturbance, *science* has acheived a leverage over disease of which our age should feel highly gratified.

FAT EMBOLISM.—Since the valuble observations of Virchow, issued in his "Cellular Pathology," the subject of embolism has been brought prominently under the notice of the profession, and thus we have explained the local obstructions to circulation, so frequently taking place after acute rheumatism, typhoid fever, and the not uncommon attacks of fever, shortly after parturition. Thus we have either to deal with the fragment of a thrombus, wedged in most likely at the bifurcation of a large artery, or the fragments of a coagulum, in more or less altered condition (by a species of crumbling process), finding their way into smaller branches of the arteries, and giving rise to the consequences proportionate to the extent and peculiarity of the obstruction Recently the interesting subject of embolism has taken a new phase, and come under the notice of the surgeon as well as the physician.

The investigation of the cause of sudden death after fractures of the long bones has brought to light quite a new pathological features of intense interest. In 1862, Genker and Wagner, two German pathologists, discovered that embolism could be produced in the lungs by fat, introduced into the venous circulation. In 1856, F. Busch actually published a case, in the Berlin *Medical Journal*, in which death resulted from *fat embolism*, and proved that in fractures of the long bones the fat contained in the crushed marrow can be absorbed by the veins, carried thus to the lungs, and there induce embolic changes, sufficient to cause death. For some time the idea of death from *fat* embolism attracted little attention, however, but the recent paper of Professor Czerrny, of Freiburg, has given fresh interest to this subject, as one worthy of close clinical examination. "We must therefore," says Czerrny, "remember the possibility of fat embolism, when a patient with an injury of the bones becomes suddenly worse, without assignable cause, a day or two after the accident, and when the symptoms point to circulatory disturbances, first in the lungs and secondly in the capillaries of certain parts of the general system. However, we can only be certain of such cause of death by the *post mortem* appearance. Sufficient has already been written on this subject to call forth vigorous investigation, in which line of thought some of our young surgeons may earn considerable distinction.

The optical department of atmosphere in relation to the "Phenomena of Putrefaction and Infection," is the headiug of the recent interesting and attractive lecture of Professor Tyndall, at the Royal Society. The experiments of 1868 and 1869 into the decompositions of vapors by light brought about the necessity of procuring some optical pure air. The careful study of Tyndall's experiments opens up many new and interesting lines of thought, pregnant with material intimately associated with both practical medicine and surgery. Many years ago Pasteur pointed out that the air of cellars, long undisturbed, was in a great measure destitute of germs, and recently Tyndall has demonstrated that if the chamber containing air was smeared with glycerine and kept quiet for a few days, it would become optically pure; he also pointed out the important fact that expired air is optically pure.

The practical result of his careful observations is, that "the power of *scattering light* and the power of *producing life* go hand in hand." His experiments consisted of boiling fully more than one hundred different infusions in optically pure air and then exposing them in the same air. He then boiled the same infnsions in ordinary air and exposed them freely after boiling. Those from the optically pure air remained fresh and free from organic life, whereas a few days sufficed to develop in the other infusions, not only putrefaction, but swarms of bacteria as well. Professor Tyndall now directs attention to the fact that there are particles floating in the air, too fine to be recognized by the microscope, and yet capable of acting on light, and he favors the opinion that these small ultra microscoic particles are probably the germs of low organisms. The success of Lister's antiseptic treatment is based on the destruction of these low organisms, which, introduced into a wound, promote suppuration and materially retard the healing process. Prof. Vussbaum, of Munich, has just issued an able phamphlet describing the successful results obtained in surgery since the introduction of Lister's system. Although the treatment is expensive from the high price of materials employed, yet it is the cheapest for hospital use, owing to the shorter period required in the treatment of surgical cases. The observations of Dr. Maclagan, at the Pathological Society, (May, 1875, *Med. Times,*) correspond exactly with the recent ideas of Tyndall, inasmuch as he expressed the idea, "that the organisms which produce the phenomena of disease are not those which we see and describe as bacteria, but other and more minute organisms, and," he says, "indeed, it is still an open question whether diseased germs have ever been seen; of their existence we judge by the phenomena to which they give rise." The influence of unseen atmospheric particles or forms is no longer a matter of doubt. Such have a place and power; still the precise *modus operandi* requires much extended observation, in order to sift truth from error; and with the rapid scientific strides of our age we must acknowledge that "there are more things in heaven and earth than are dreamt of in our philosophy."

THE PHYSIOLOGICAL PATHOLOGY OF THE BRAIN.

The subject of Localization of Function and Disease in the Brain has attracted considerable attention since the discovery of Fritsch and Hitzig. The admirable lectures of Professor Charcot at the School of Medicine of Paris, and the researches of Dr. Brown-Sequard, the results of which have been communicated by him to several medical audiences in Boston and in Paris, have clearly shown the practical aspect of the study. Knowing that Dr. Brown-Sequard intends to deliver lectures in several parts of England this summer on the subject, it may be well to give a summary of the new views of that physiologist.

According to the beliefs universally entertained, the left side of the brain is the centre for volition and movements of the right side of the body, and, *vice versa*, the right side of the brain for the left side of the body. It is also admitted that one side of the brain contains the centres for the organs of sense of the other side, with the exception that (according to Wollaston's views) the centre for the outer half of the right retina, and that for the inner half of the left retina, are on the right side, and, *vice versa*, for the other halves of the retinæ. Dr. Brown-Sequard believes that all these fundamental views are absolutely wrong. He has collected a large number of facts which prove, according to him, that each half of the brain has two sets of conductors, one going to the right half of the body, and the other to the left half. He believes that it is so, not only as regards voluntary impulses and common sensations, but also for the various senses. In other words, he contends that each half of the brain is perfectly sufficient for all the actions of muscles, of sensitive nerves, and of the organs of sense, on the two sides of the body. Of course, he is fully aware that every day physicians have under their eyes facts which seem to contradict this view. It is a matter of most frequent observation in the practice of a physician to see a patient who has lost the power of motion and sensibility in one half of the body from disease in the opposite half of the brain. He argues that the question is not whether such a fact contradicts or not his view, but whether that fact is or is not to be explained by admitting that the paralysis and anæsthesia are dependent upon the destruction of a centre or of the conductors for voluntary movement and sensation. There lies the vital point in the new views of Dr. Brown-Sequard. He has accumulated facts which he believes negative the theory that paralysis, anæesthesia, amaurosis, aphasia, and other effects of brain disease depend on a loss of function of either the centres or conductors specially employed in voluntary movements, perception of sensations, power of expressing ideas by speech, etc. Dr. Brown-Sequard endeavored to prove, for the first time, in his Gulstonian Lectures, delivered at the College of Physicians in 1861, that a lesion of one limited part of the brain may produce any symptom; and that, on the other hand, the same symptom may appear, no matter where the seat of the lesion may be. Facts of these two kinds are alone sufficient to show that we are not to look upon symptoms as manifestations of the putting in play of a property, or as direct results of the loss of function of the part diseased. But there are many other arguments brought forward by Dr. Brown-Sequard to establish his proposition that the origin of brain symptoms is not what it is believed to be.

If we take, for instance, the history of paralysis, we find—1. That a lesion in any part of the brain can produce paralysis either on the same side or on the opposite side of the body. 2. That paralysis can often appear and disappear, although the lesion causing it is a permanent one. 3. That there is no relation whatever in many cases between the extent of a lesion and the degree and extent of a paralysis. 4. That a paralysis may be brought on suddenly, whereas the lesion causing it has existed for some time already, or appear gradually and slowly, although the lesion is a sudden one. 5. That a paralysis can appear on one side, then on the other side, although the lesion remains in one half of the brain. 6. That a paralysis can appear in the arm on one side, and in the leg on the other side, from a lesion in one side of the brain. 7. That paralysis can strike three limbs from a lesion in one side of the brain. 8. That paralysis can strike the two lower limbs or the two upper limbs alone from a lesion in one half of the brain. 9. That paralysis can appear in one half of the body from a lesion involving equally the two sides of the brain along the middle line. 10. That paralysis may appear in a few muscles only, either in the face, or the trunk, or the limbs, from a disease above the pons Varolii. 11. That a paralysis of the sphincters of the bladder, or of the anus, may result from disease in any part of the brain. 12. That the so-called altern paralysis may appear from a disease above the pons Varolii. 13. That hemiplegia, when complete, is almost always accompanied by some paralysis on the other side, although the producing disease exists only in one half of the brain.

If we examine what relates to convulsions, we find, according to Dr. Brown-Sequard, that what is seen for paralysis is seen also for spasmodic movements. We will point out here this interesting fact, that a lesion in the right side of the brain can produce convulsions indifferently on the right or on the left side of the body; while a lesion in the left side of the brain, if it does produce unilateral convulsions, will cause them to appear almost always on the right side.

As regards vision, facts show that a disease in one half of the brain can produce hemiopia either in both eyes or one, and in the corresponding or the opposite halves of the retinæ, or a complete amaurosis of either of the two eyes, or of both together.

As regards other symptoms, such as anæsthesia, aphasia, loss of consciousness, etc., Dr. Brown-Sequard endeavors to show that they also may arise from lesions in almost any part of the brain.

Considering the immense variety of phenomena originating from a lesion in one and the same part of the brain, and in presence of facts showing that any limited part of the brain can be destroyed without loss of function, Dr. Brown-Sequard has come to the conclusion that symptoms take rise, not from the loss of action of the diseased part, but from an influence exerted on distant parts of the nervous system by a lesion limited to a part of the brain. He considers the appearance of symptoms as depending on essentially variable conditions of excitability of the nervous tissue round diseased parts. He is convinced that it is impossible to sustain the old theory, called the clavier theory, and that we must, on the contrary, admit that a few fibres alone are sufficient to establish full communication between the cells of the spinal cord and the cells of the brain. He holds that there are two sets of conductors, one decussating and the other direct, between each half of the brain and the spinal cord. He maintains that the seat of each special function of the brain, instead of being as admitted, a cluster of cells localized in a small part of the brain, is disseminated, so that the cells belonging to each are spread over a considerable extent, if not the whole extent, of the brain. He states that there is no more difficulty in admitting that cells that are at a distance of many centimetres one from the other can communicate or act together, than to admit that they can have intercourse when they are at a distance of a half a millimetre or less from each other. He believes that symptoms of loss of power, such as paralysis, anæsthesia, amaurosis, aphasia, etc., are due altogether to an inhibitory influence exerted on cells, some near, others far or very far, from the place of the lesion. For him whether amaurosis affects both eyes from a lesion of the spinal cord, or of a sensitive nerve, or of the brain, it is owing in all these cases to an inhibitory action on visual cells, either in the two sides of the brain, or in the retina, or in both parts. Again, if aphasia appears when there is a disease in any part of the left side of the brain, either the third frontal convolution, or the insula, or any other, it is owing to an inhibitory influence exerted on cells serving to the expression of ideas by speech, wherever these cells are located. We repeat that paralysis and anæsthesia also appear, by a similar mechanism of inhibition, wherever the disease producing these symptoms may exist.

In respect to the group of symptoms consisting in a morbid activity in cells of the brain, what takes place on the occurrence of those symptoms is a setting in action of normal properties by an exciting cause. So that either here, or as regards the phenomena of cessation of an activity, the same cause primarily exists—an irritation.

Dr. Brown-Sequard has no doubt that the old theories must be given up. He is sanguine as regards his power of demonstrating that a great part of his new views is already established by facts, but he acknowledges that some portion requires additional corroboration. He hopes that others will help him in the demonstration of the correctness of his views, or show him in what he is mistaken, and his object in delivering his lectures in England is precisely to have that help or that criticism.—*Lancet*, June 3, 1876.

REPORT ON MENTAL DISORDERS.

By John Curwen, M. D., Pennsylvania.

In considering some of the causes which may exert a predisposing influence in the production of mental disorders, it seems proper to call attention to some which may be more or less active in the formative period of life, and may thus give rise to habits and practices which become fixed and difficult to be eradicated. It is an unquestioned fact that too little attention is given to the proper care and training of children by a large number of parents and guardians. They are allowed to do pretty much as they, please, resist all parental control and influence, and seem to grow up with the idea that their will is law, and that no one has any right to check regulate, or interfere with what they may see proper to do. They have never been taught "to preserve the honor and perform the duties belonging to everyone in their several places and relations as superiors, inferiors, or equals;" they have never been restrained or controlled as they should have been, in their tempers or their passions, and, consequently, as they advance in years they find this control more and more difficult to exercise, if they ever really see the necessity of it. This neglect or disregard of parental control extends to all those with whom they are brought in contract, and though to some degree repressed and restrained in school, it is never properly regulated in the majority, who, too frequently, grow up with the feeling that there is no necessity for their yielding due respect, deference, and obedience to those whose position may require them to exert some authority over them; and the scorn and often derision which many manifest when they are required to yield prompt obedience to the law of the land, must certainly be traced to this early neglect of proper home training.

It is a truism, which needs only to be stated to be acknowledged by every right-minded man, that no one can be a good citizen who does not yield a cheerful and hearty obedience to the laws of the land.

Now, we insist that this neglect in the early training of children has a prenicious influence on the right development of their mental powers all through life. There cannot be that steady and equable balance so necessary to the proper operations and healthful exercise of the mind when certain passions and emotions exercise an undue preponderance, and it is this irregular exercise of the mental powers which renders the individual so much more liable to mental disorders.

The capricious or unrestrained indulgence of certain passions and emotions, the inattention to those courtesies and obligations which contribute so largely to the comfort, happiness, and well-being of our fellow-men, and the lack of forbearance and sympathy for others, each and all tend to produce a condition of mind which affords a ready soil for the seeds of mental disorder And do not persons thus conditioned have much less power to risist the incursions of mental disorder, from the fact that they are by habit and constitution unable to take a cautious and deliberate survey of their position when that survey is most needed? They have so constantly and steadily yielded to the impulses of passion or the promptings of emotion, that they have no resources of health restraint or calm deliberation and prudence on which they can fall back when they most need them in trial and adversity, and they are consequently too liable to be carried forward in a course which will lead to crime or insanity. If "madness frequently discovers itself by unnecessary deviation from the usual modes of the world." are not persons who are lacking in the elements of steadiness, sobriety, and equable balance much more likely to fall into some of the numerous paths which may ultimately lead to mental disorder?

The system of education so much in vogue within the last few years, particularly in private schools, has unquestionably a tendency to impair the integrity of the nervous system, and thus predispose to various diseases of that system and to mental disorders. The effort to make children study half a dozen books on different subjects, and the continued strain thus induced, not only during school hours but at their own homes, to enable them to keep up with the work required of them, with the consequent almost entire neglect of regular healthful exercise, seems to have been the rule.

Teachers do not seem to have considered that the brain and nervous system of a growing child need to be as carefully nurtured as a delicate plant, and they have been in the habit of giving young children an amount of work to do which would have taxed the strength of an adult. Let any one examine the number of books which any boy or girl may carry home from school, and often that is only part of the study required, and look into those books, and mark the length of the lessons given by the majority of teachers, and then consider whether the mental and physical labor required to overtake and understand all this, is not more than should be expected of any growing child under sixteen.

The same unswerving rule for all; teachers do not seem to be aware that there are diverities of gifts as well as different powers of endurance; that what is easy and pleasant to one may be hard and repulsive to another, with the same axious desire in both to learn; that while one may readily grasp a mathematical problem and have delight in its solution, another from a peculiar bent of mind may be able only to reach that solution after the most tiresome and patient toil.

It is freely and cheerfuly admitted that there are certain general principles which all must learn and understand, but the point now insisted on is, not that these should not be learned, but that the method adopted to enable them to learn is liable to the serious objection that it makes no allowance for peculiarities of mental constitution, but insists that a certain amount of work must be done whether the child really and properly understands what is studied, ignoring the true principle of all education, which consists in the healthful and regular drawing out of the different mental powers, and a proper, cautious, and intelligent direction of them.

It is quality, and not quantity, which is really needed, but the system has been to reverse this and go over a large extent of surface in the most superficial manner. The greatest amount of injury will most prabably be done to those who are active and ambitious, and inclined to precocity, for they will be induced to make the greatest show of progress and learning, and will overtax themselves in the effort, urged on by inconsiderate teachers and injudicious friends, who, too often, mistake the commencement of diseased action for great talent and ability.

Add to this the close, confined, overheated air of the great majority of school-rooms, causing the children to breathe a vitiated atmosphere, which dulls their faculties, and too often poisons their blood, and the additional confinement in an uncomfortable position for so many hours, with very slight intervals of relaxation, and it must be obvious that there are causes which will seriously interfere with the healthy growth of the physical system, and result in consequent injury to the mental powers.

Then again the present systems of education, as a rule, are directed to the training of only one set of powers, the intellectual, leaving the moral entirely out of consideration, and thus producing an improperty regulated or unevenly balanced mind. It may be urged that the training of the moral powers is a work to be done at home, and while that is true to some extent, it is equally just to say that what is commenced at home should be carried on through the whole daily life of the individual, for very often the youth will be for a longer period under the care of the teacher than with the parent, and it cannot be denied that the most successful mode of eradicating evil or preventing its growth is the inculcation of the higher principles of truth and morality, and a careful instruction in those principles when once implanted.

It is necessary also to take into account, in an estimate of the predisposition to mental disorders, the irregular habits of living, the neglect of all hygienic rules, the giddy, frivolous pursuit of pleasure continued week after week, and often month after month, the exhaustion of the nervous system produced by a long-continued course of what is too often considered harmless dissipation in overheated rooms, exciting company and exercise, with eating much stimulating food at very unseasonable hours, and not sufficient rest to recuperate the system. It is a matter of serious inquiry how much of the tendency to nervous disorders and other debilitating ailments may be traced to a course, negligent of their health and imprudent in their habits, pursued by a large number of those who are the mothers of so many in whom a great variety of nervous complaints and also of mental disorders has been developed during the present generation. It is contrary to all analogy and experience to expect that the strong and healthy should spring from the weak and nervous; and it is not to be expected that those who commence life with faulty nervous organszations can bear the cares and trials, the duties and anxieties, incident to the care of a family, without sooner or later yielding to the pressure and manifestsng some form of mental disorder, or of the severer forms of nervous disease akin to it.

In this connection it may not be amiss to allude to the effects produced on the nervous system of the child by the scenes the mother may witness, the trials, annoyances, and manifold anxieties, she may experience during the period or gestation; that some positive impressions are thus produced can be attested by evidence which it does not seem reasonable or philosophical to reject.

Every one must have noticed the peculiarities in the mental constitution of different members of a large family; and in some families this peculiarity is very striking, and while making every allowance for the variation of the mental condition of the father and mother at the different periods corresponding with the ages of the children, it will yet be found that these variatious and peculiarities will often be so great that they can only be satisfactorily accounted for by reference to some peculiar condition of the health of the mother during gestation. "The parents of S. S. are people in a very respectable position in life. They have a family of twelve children; neither of the parents themselves, nor any of their relations, nor any of their children, with the exception ot this girl, have ever shown any symptoms of mental disorder. While the mother was pregnant with this girl, she suffered from a severe attack of Asiatic cholera, from which she bareley escaped with her life. During this time she showed some symptoms of mental disorder. She entirely recovered her former health, both of body and mind, after her confinement. The child S. S., with whom she was pregnant while in this state of health, has from birth been quite different from the rest of the family. The girl's bodily health has been good, but her moral sense deficient. As a child, she was difficult to manage. On reaching the age of puberty, she displayed want of control over her sexual propensities. She consorted shamelessly with the male sex, and was the mother of an illegitimate child at the age of fifteen. She refused to say who was the father of the child. Her character seems indeed bad throughout. She would not engage in any useful occupation. She avowed her hatred of her family—as her father well expressed it her conduct after the birth of her child, was perfectly unbearable, and her language was anything but dutiful and daughter-like. She used foul language to her father and mother, threatened to kill her sister and commit suicide."—(*Edinburgh Quaterly Journal*, 1874.)

The boy, Pomeroy, of Boston, of whose muderous inclinations so much has recently been written, presents a very striking instance of this influence. During the time she was pregnent with him, his mother was in the habit of frequenting slaughter houses, to witness the butchering of different kinds of animals, and seems to have taken a special pleasure in witnessing such scenes, and also in drinking the blood as it flowed warm from the dying animal.

Then, again, consider the large number of idiots born of parents who are in the habitual use of intoxicating drinks, the records showing that a large proportion can be traced to this cause.

It does not require any lengthened statement to bring before the mind of every medical man, the prolific source of so much disease of the brain, as may be traced to the continued pressure and strain to which so many men are constantly subject in their eager and exhausting devotion to their business. Depriving themselves, too often, of all healthful exercise and relaxation, they are absorbed in the most engrossing manner with the labors and duties of their particular line of business, so that they eat in haste, as if that which is to brace and strengthen them for what they expect to do, were a thing seriously interfering with their welfare; they deny themselves that amount of sleep, which is so needful to recuperate the exhausted energies of the the day; and their whole mode of life is so much like that of a steam engine forced to do the work for which one double its capacity is scarcely sufficient, that it cannot be expected that the man should experience any other result than an early and fearful break. Men need to be reminded day by day, and almost hour by hour, that there are certain immutable laws which cannot be violated with impunity, and among these may be reckoned the absolute necessity for seven or eight hours' sound sleep at night, frequent relaxation from engrossing and exhausting duties—for a bow always bent soon loses its elasticity—careful and diligent attention to regularity in eating, and also the punctiliious observance of the old rule, "to keep the head cool, the feet warm, and the body open." The injunction, "let your moderation be known unto all men," applies not only to eating and drinking, but to the pursuit of daily duties, the control of the temper and passions, the freedom from worry and undue anxiety, and to everything, in fact, which comes within the sphere of the daily labors.

VACCINATION AS A PREVENTIVE OF SMALL-POX.

We are in the receipt of a very able essay on this subject by Dr. W. C. Chapman, Vice-President of the Toledo Medical Association. Dr. C. commences with a natural expression of surprise and indignation, that in this year of grace, 1876, unreasonable and fatal prejudice against it should exist in the minds of any educated or intellectual individual, and by way of showing in the most unmistakable manner the losses sustained by a community from the prevalence of a small-pox epidemic, he quotes the following passage from a paper presented by Dr. Benjamin Lee, of Philadelphia, at a meeting of the Public Health Association in Baltimore. "An approximate determination of the loss sustained by the city of Philadelphia, in dollars and cents, in consequence of the presence of a small-pox epidemic in the winter of 1871-2, and placing side by side with this the degree in which the loss might have been prevented by judicious sanitary legislation legally enforced. The total loss sustained during the epidemic of those years is placed at the enormous figure of nearly twenty-three millions of dollars, and Dr. Lee believes that 90 per cent. of the cases, and 97½ per cent. of the deaths, could have been avoided, and that less than three-quarters of a million dollars would have represented the total loss by sickness, death, and disability. Averaging the value of a human life, he finds that the actual loss sustained by reason of sickness, death, and disability, was nearly sixteen and a half millions of dollars. He then reviews the history of the origin and spread of small-pox, in former centuries, with its frightful attending mortality, in an exhaustive manner, inclining to the belief that the disease described by Procipius, which made its appearance in Egypt in the year 544 was true small-pox. Europe was not long free from its invasion. Gregory, of Tours, speaks of a disease which appeared in southern Europe in the year 581. From the description given by him, the character of true small-pox is apparent. In the Harleian manuscripts, published some time before the year 900, the word variola is used; and

Moore in his history of small-pox, states that the word occurs in the Bertinian Chronicles, published in the year 961. The dread in which the disease was held by the people is shown by the following prayer, found in the first named manuscript: 'In the name of the Father, of the Son, and of the Holy Ghost, Amen. May our Saviour keep us; Lord of Heaven, hear the prayers of thy men-servants and of thy maid-servants; O Lord Jesus Christ, we beseech thousands of angels, that they may save and defend us from the fire and power of the small-pox.' Dr. C. then traces down successive epidemics to the end of the eighteenth century, discusses the question whether it was coeval with creation, or had a subsequent beginning, and whether the same causes which originally produced may reproduce it without contagion. He rather inclines to the belief, that although the doctrine of spontaneous origin admits of being supported by ingenious and plausible arguments, the weight of evidence is decidedly in favor of the invariable origin of small-pox by contagion. He then gives the history of the introduction of inoculation as a palliation, by Lady Mary Wortley Montague, its subsequent abandonment from its proven ability to spread the disease as readily through the community from an inoculated case of small-pox, as from a natural one. From this he passes on to a glowing eulogium on Jenner, the generally believed discoverer of vaccination as a prophylaxis. We say generally believed, because we apprehend the evidence extant to prove that to Jenner is due only the merit of elaborating, with great care and labor, the discovery of another, is known to comparatively few members of the profession. In evidence of this we translate from *Trousseau's Medical Clinique*, Tome Premier, page 43, the following passage: "The idea is far from me of contesting the honor due to Jenner for the discovery of vaccination; it is necessary however for historic truth to make known the various documents which have been collected recently in the *Gazette Medicale de Lyon*, documents borrowed from the *London Lancet* of the 13th of September, 1862, and which would appear to establish incontestably that a Gloucestershire farmer, Benjamin Jesty, was the first to try, in 1744, inoculation of cow-pox, which he practiced on his wife and his two sons, with the view of rendering them exempt from epidemics of small-pox. The same journal contains a letter from Mr. John Webb, from which it would appear that small pox may be communicated to the cow, and that those who take from the cow this small pox, so modified become after some days of restlessness, exempt from variolous contagion. Trousseau then quotes from the *London Lancet* of the 25th of October, 1862, a recital of the circumstances that led to this discovery by Benjamin Jesty, also a letter from Mr. Alfred Hairland, on this discovery of Jesty's, an extract from the annals of the Vaccine Institution, and lastly the epitaph on Jesty's tombstone, which reads thus: "Sacred to the memory of Benjamin Jesty, who departed this life the 16th of April, 1816, aged seventy-nine years. He was born at Yetminster in this county, Dorsetshire. An upright, honest man, particularly noted for having been the first known person to practice the inoculation of cow-pox, and from his great strength of mind to undertake the experiment of vaccinating his wife and two sons in the year 1774." If Jenner was not, as it would thus appear, the dicoverer of vaccination, unquestionably to him belongs the honor of familiarizing the public mind with its preventive powers. Jenner published his first essay upon the subject in spring of 1798, entitled: "An enquiry into the causes and effects of the variola vaccine, a disease discovered in some of the western counties of England, particularly Gloucestershire, and known by the name of cow-pox." Dr. Chapman arranges the subject of vaccination under the four following queries. 1st. Does vaccination protect the system from the contagion of small-pox? 2nd. Why does the protective power of vaccination become so impaired as to render re-vaccination advisable? 3rd. What causes have prejudiced the public mind against the operation of vaccination? 4th. What measures should be instituted to enforce a due appreciation of the benefits of vaccination?

We propose epitomizing his views on these four queries. Dr. Seaton, in reporting the results of vaccination in Scotland and Ireland, says, that in the twelve years, from 1853 to 1864, there was annual death-rate in the former country of 1,054, there being no vaccination act prior to 1863. In the years 1865, '66, '67, '68 it was respectively 175, 200, 124 and 25. In Ireland, from 1830 to 1840, the annual mormortality was 5,800; from 1840 to 1850 it was 3,827; and from 1850 to 1860 it was 1,272. Vaccination became compuls ry in 1863, and in the years 1864, '65, '66, '67, '68, there were respectively, 854, 347, 187, 20, and 19. In the first three months of 1869 there were only three deaths, and in the next quarter of the year none. Professor Aitken, in his report to the Epidemiological Society of London, proves the beneficial influence of even an imperfect enforcement of vaccination enactments by the following statistics: 1st. To prove the influence of vaccination in England, it is shown that out of every 1000 deaths in the half century, from 1750 to 1800, there were 96 deaths from small-pox; and out of every 1000 deaths in the half century, from 1800 to 1850, there were only thirty-five deaths from small-pox. 2nd. To prove the influence of vaccination on the Continent, it shows that in various German states sufficient evidence can be obtained to show that out of every 1000 deaths *before vaccination was used*, 66.5 were deaths from small-pox; but that out of every 1000 deaths in the half century from 1800 to 1850, after vaccination came into use, the deaths from small-pox were only 7.26. 3rd. To prove that in countries where vaccination is most successfully carried out, small-pox is least mortal, it is shown that in this country (England) where vaccination has been voluntary, and frequently neglected, the deaths from all causes being 1000, the deaths from small-pox were as follows:—London 16, Birmingham 16.6, Leeds 17.5, England and Wales 21 9, Perth 25, Paisley 18, Edinburg 19.4, Glasgow 36, Galway 35, Limerick 41, Dublin 25.6, Connaught 60, all Ireland 49. In other countries, where vaccination has been more or less compulsory, the deaths from all causes being 1000, the deaths from small-pox were as follows.— Westphalia 6, Saxony 8.33, Rhenish Prov. 3.7, Pomerania 5.25, Low Austria 6, Bohemia 2, Lombardy 2, Venice 2 2, Sweden 2.7, Bavaria 4. Dr. Balfour has collected statistics from the records of the British army and navy. It is shown that in one branch of the service, with an aggregate strength of 44,611 during the twenty years from 1817 to 1836 inclusive, there were only three deaths from small-pox, in a total mortality of 627. During the same period, among the troops of Gibraltar, the aggregate strength being 44,611, and a total mortality of 1,291, there occurred only one death from small-pox. At Bermuda, Nova Scotia, New Brunswick, Cape of Good Hope, and the Mauritius, there were no deaths from small-pox for twenty years; and in Western Africa, where the unprotected population was dying by hundreds, there were no deaths from the disease among the troops stationed in that region of country. It is thus shown conclusively, that since the introduction of vaccination, the rate of mortality has been reduced in those portions of the world were the operation has been enforced.—*Canada Lancet.*

AMERICAN MEDICAL ASSOCIATION.

Section on Obstetrics and Diseases of Women and Children.

THE TREATMENT OF THE PEDICLE IN OVARIOTOMY.

This Section met on Tuesday afternoon, June 6; Chairman, Dr. Samuel C. Busey, of Washington, D. C.; Secretary, Dr. Robert Battey, of Georgia. The discussion was opened on the treatment of the pedicle in ovariotomy, by Dr. Dunlap, of Ohio, who postponed what he called division of the pedicle, first loosening the tumor from any attachment it may have formed, raising it from its bed, securing the pedicle so as to control the circulation, then cutting into the tumor, probably about one-half through, if not very large, saving enough peritoneum to have a long pedicle, severing the tumor, and enucleating the remaining portion of the sac, after the manner of Dr. Atlee. The bottom of the cup shaped wound rests on the broad ligament of the uterus. After securing the vessels, pass four or five long loops of silk through the cut edges of the peritoneum, equidistant, and carry a curved metal speculum into the vagina by the side of the uterus, and against the bottom of this wound, making a small opening. The speculum should be placed either at the right or left of the ovary, not back or front of the uterus, and the uterus thus placed under control. Then plunge a small instrument through and pass it in a sufficient depth to penetrate the wound. Pass your loops of silk in the edges of this wound, and any ligatures you may have for securing the vessels down through the speculum, and by drawing on these loops you draw the peritoneum down to the speculum, which last you then withdraw, leaving the peritoneum inverted, and the wounded surfaces closely adapted to each other. A somewhat similar plan might be followed in the cass of fibroid tumors. Deaths from ovariotomy seldom result from the mere operation, but from the presence of fluids in the abdominal cavity, either causing inflammatory action by their presence, or, by their absorption, producing septicæmia.

Dr. John L. Atlee considered that, in patients with a moderately good constitution, drainage tubes were not necessary; with a good atmosphere in such cases there was little fear of septicæmia. The less we meddle with the peritoneum the better. He had performed ovariotomy in 1843, and both his brother and himself had then been called butchers. His first case was one of double ovariotomy, and is still living. The great advantage of a clamp is that you leave nothing behind in the cavity of the abdomen. In one case—a tumor weighing sixty-five pounds, with a very short pedicle—the wound opened after a violent fit of coughing, and the uterus protruded, and the cut-off pedicle sloughed off; since which time he has closed the lower part of the wound with a fine needle.

Dr. Dunlap stated that he had also been one of the earliest ovariotomists. The drainage-tube should only be used where the peritoneum is wounded by tearing up the adhesion. His plan of operation left the parts entirely free from stretch or pressure. He had never found the functions of the uterus interfered with when the organ was held in that way.

Dr. Hodge, of Philadelphia, spoke of the more favorable termination of cases in private practice than in hospitals. He saw no advantages by the drainage tubes, and considered them a source of irritation. While the fluid came out, there was an objectionable inlet for the atmosphere. He prepared his patients by preliminary strengthening treatment, and never operated when they were mentally depressed.

Dr. Atlee always purged his patients for a day or two before the operation, and then put the bowels in splints with McMunn's elixir, etc. He gave them afterwards plenty of ice or cold water.

Dr. Sims said that he had formerly tied the pedicle and dropped it inside, but death had in several cases occurred from hemorrhage. He had used the clamp very extensively for several years past. He did not believe that the proper principles of the action of the clamp were generally understood. The objection to the clamp is that the sloughing does not stop at the point at which the clamp restricts the pedicle. No man has seen the clamp separate and leave the wound smoothly healed. There is no adhesion at any other place than between the pedicle and the peritoneal lining of the cavity. If there are no adhesions the case can safely be left without drainage. In one case in which he supposed death had resulted from peritonitis, he found, on post mortem examination, sloughing of the pedicle extending down an inch below the internal lining of the abdominal cavity. (Several other interesting and difficult cases were detailed in illustration.) Dr. Keith, of Edinburgh, is now using the actual cautery with great success, and Dr Sims was coming to the belief that the actual cautery is the best method after all. The uterus must not be allowed to fall. Drainage can be effected through the cul-de-sac, or by a glass or silver tube. Nine-tenths of the patients who die do so from septicæmia. There are objections to all the modes of drainage adopted. It would be well to combine drainage of the external wound with drainage of the cul-de-sac of the vagina.

Dr. Byford thought ovariotomy as practiced is too complicated, and hence the occasionally bad results. Patients may die from the retaining of putrid material in the abdominal cavity, as well as from the absorption of granulous matter. He lost one third of his cases when he used the clamp. He had had excellent success with Dr. Dunlap's method. Drainage with a stiff tube was apt to press injuriously on the patient's intestines. He preferred drainage by the ligature, and was going to employ it universally hereafter.

Dr. Sell, of New York, alluded to the success of Spencer Wells with the clamp. A patient in bad health, with no preliminary treatment, will be likely to do badly under any method of treatment of the pedicle.

Dr. Washington L. Atlee preferred the clamp to any other method. Dr. Keith was very successful with the hot iron, but he is said to select his cases. A short pedicle does not prevent the use of the clamp. The clamp excludes the dead tissues from the cavity of the peritoneum, keeps the womb perfectly quiet, and does not drag upon that organ or upon the pedicle. A pedicle thrown into the cavity of the pelvis has been known eventually to cause death by adhesion of the intestines. Great danger exists when the tumor itself adheres to the intestines. The tumor must be shelled out of its nest. A proper syphon must be employed in these cases. He had operated 340 times, 200 of which were with the clamp. About 70 per cent recovered. If you pass a tent down well into the cul-de sac, and bring it out over the arch of the pubis, you will have sufficient drainage. He had sometimes employed three tents in different regions.

Dr. Garrish, of New York, referred to the necessity of putting the patient in a good hygienic condition before operating.

DR. PAGE'S UTERINE SUPPORTERS.

On Wednesday afternoon Dr. R. C. Page, of Washington, described a form of uterine supporter applicable to cases attended with hyperæsthesia of the vagina or uterus, in which a hard material could not be endured. It was made of the finest quality of jewelers' cotton, with long fibre, firmly rolled on a curved rubber rod, and afterwards wrapped in the centre, producing a dumb bell form, with compact and elastic extremities, and a curved isthmus. It is introduced through the Sims' bivalve speculum, and is to be removed at night by the patient, who then takes a hot water injection ; the pessary, or supporter, being kept all night in a solution of carbolic acid. The cervix rests on the isthmus of the instrument. The curve and size of the pessary may be adapted to the requirements of the case.

GALVANO-CAUTERY BATTERIES.

Dr. Byrne, of New York, introduced several forms of batteries and galvano cauteries, the plates being platinum and zinc, the fluid used being a solution of bichromate of potash, or a little sulphuric acid and water, the latter being sufficiently strong for ordinary cases, the former being employed where greater power is necessary, as in cauterizing the stump of the pedicle. He alluded to the applicability of these instruments to the cauterization of the cervix uteri, cervical canal, and the urethra, in cases of chronic urethritis, and uterine and cervical catarrh. White heat should not be employed ; hemorrhage would be more likely to follow. He generally occupied about twelve minutes in cutting through the cervix with the cautery. There should be no hemorrhage whatever, if rightly employed. He referred to the use of the cautery in connection with the clamp in treatment of the pedicle, a second clamp being employed after cauterization. In reply to numerous inquiries as to the applicability of this form of cautery, Dr. Byrne stated that he had not used it for venereal warts ; that the pain following the removal of hemorrhoidal tumors was but slight, and easily controlled by a suppository the patient walking about on the second day, whereas the operation by the ligature was often attended with three or four days of pain There was a good deal of pain during the operation, but he usually anæsthetized his patient. At the conclusion of his remarks, a vote of thanks was tendered him for his interesting explanation.

PRECOCIOUS DEVELOPMENT—EARLY MENSTRUATION.

Dr. Marcy, of New Jersey, gave an account of the extraordinary development of a very young child, to which his attention had been called two years ago, and exhibited a photograph of the case. The pubic hair began to grow when she was nine months old. The mammary gland commenced to develop at the first month. She is very precocious intellectually. The vagina measures three inches in depth, and receives the right index finger without pain. The uterus is considerably larger than in its ordinary undeveloped state ; there has been no menstruation.

An inquiry was made whether there was anything in the condition of the father and mother to account for it. The profession had bestowed too little attention on pre-natal causes. Might not an amorous or lascivious mother, for example, implant the same disposition in her child ? Infants have been known to masturbate on the lap of the mother.

Dr. Sell reported a case which he considered much more developed than this : the "Baby Woman," exhibited by Barnum many years ago. He saw her at the age of three years. She commenced to menstruate at eighteen months, and did so regularly after two years and seven months. The mammary development equalled that of an adult She was perfectly innocent, with no lascivious expression. He had the child's age from the mother, not from Barnum. The child was examined by a medical commission.

Dr. Greene, of Michigan, mentioned the case of a young lady who commenced menstruating at three years of age, and died in child-bed at the age of twen

VERATRUM VIRIDE IN PUERPERAL ECLAMPSIA.

At the meeting of the Section on Thursday afternoon, Dr. Burdge, of Brooklyn, referred to the portion of Dr. Busey's address, as chairman of the Section, which alluded to the use of veratrum viride in puerperal eclampsia, and spoke of the satisfactory experience of practitioners of that city with it.

Dr. Hopkins was in doubt whether the remedy should be employed unless the pulse was full and hard.

Dr Langhorne, of Virginia, advocated the use of the drug, having seen no evil effect from it.

Dr Battey stated that in Georgia it was highly esteemed in the cases referred to. He would feel reluctant to prescribe it in half drachm or drachm doses, as had been suggested by some. It is not devoid of danger.

The remark was made by a delegate that the saturated solution could not have been the article administered in such doses. He never gave more than four to six drops.

Dr. Langhorne said a distinction should be made between Tilden's tincture, Norwood's, and that of the United States Pharmacopœia, and a large dose of even the weakest of these should only be given when the condition of the brain and nervous system or of the intestines indicated it.

Dr. Battey, of Georgia, reported a case of prostration from three-drop doses

Dr. Fitch relied entirely on Norwood's tincture, varying the dose with the nature of the case. He gave five or six drops at first, every two or three hours, increasing by one drop until the effect was produced, and then decreasing.

Dr. Bennett, of Ohio, thought that attention should be paid to the fact that eclampsia occurs under very different conditions, requiring a difference of treatment. There may be cerebral hyperæmia or cerebral anæmia. Blood-letting may sometimes be necessary, rather than wait for the slower action of the veratrum viride.

Dr. Greene recommended the use of morphia hypodermically in these cases of eclampsia. He approved of the use of the veratrum in puerperal fever, followed by administration of brandy and morphia.

Dr. Ohr, of Maryland, had treated every case with the lancet, and lost none; the patient being seated and bled until return of consciousness, and then delivered as rapidly as possible, the inhalation of chloroform being employed, if necessary. He had abandoned the use of veratrum viride. Their recovery to full strength was as rapid as though they had not been bled.

Dr Jenks, of Michigan, had never used veratrum in eclampsia. We may have to act differently according as the convulsions occur, after or before delivery. In the epileptic form we may with confidence resort to chloroform ; in the apoplectic, to the lancet.

Dr. Kerr, of Pennsylvania, thought that under any rational treatment the patients would get well.

CHLORAL HYDRATE IN PUERPERAL CONVULSIONS.

Dr. Eshleman, of Philadelphia, alluded to the use of chloral hydrate in puerperal convulsions, and of ether in puerperal cases. He had never seen convulsions in a patient treated with ether in confinement.

Dr. Didama, of Syracuse, had been able to prevent the occurrence of convulsions for two years past by watchful antecedent care and treatment of his patients.

Dr. Peaslee, of New York, had great faith in the lancet in cases of puerperal eclampsia; but chloroform is frequently indicated, with rapid delivery. It should not be mixed with ether. He never used the veratrum. Dr. Sims had not had any recent experience with this class of cases.

Dr. Goodrich, of Minnesota, related several cases attended during pregnancy with a large percentage of albumen, all of which were bled and recovered.

Dr. Jennings, of Arkansas, had always bled, but had recently employed with it the bromide of potassium and chloral.

Dr. Busey, in reply to an inquiry of Dr. Fitch, stated that he did not wish to convey the idea in his Address that Goodell's method of correcting false presentation, or Parry's mode of correcting face presentation, was to be considered as meddlesome midwifery. [A motion that the portion referring to puerperal meningitis be taken up, so far as related to its epidemicity, was lost.]

Dr. Sims thought that many diseases followed, not the use of instruments, but because these were not employed when they should be.

PERSULPHATE OF IRON IN HEMORRHAGE.

Dr. Jenks considered the employment of persulphate of iron in hemorrhage as bad practice. The coagulated blood may produce septicæmia. Rather than use uterine injections, he believed in the expulsion of the head and compression, and ice. The introduction of the hand into the uterus is a dangerous expedient.

Dr. Chadwick, of Boston, said the experience of prominent members of the Obstetrical Society of London, at a meeting at which he was present, was favorable to the use of the sulphate. The coagula should be washed out with some disinfectant solution, and septicæmia would not follow.

Dr. Larrabee, of Kentucky, stated that tincture of iodine had been much employed in Louisville, introduced through catheters, with the nozzle-pipe closed to avoid passing the injection into the fallopian tubes. Ergotin, injected into the muscular tissue of the arm, had also been resorted to.

Dr. Fitch, of Illinois, prevented hemorrhage by anticipation; examining the history and condition of the case, he gives a full dose or two of ergot shortly before the delivery of the child, repeated if necessary. He assists the delivery power by grasping the uterus, keeping it contracted, and employing cord contraction with a pendulum movement. After delivery of the placenta he secures contraction of the uterus by pressure. In his view persulphate of iron injections were not necessary.

Dr. Wilson, of Pennsylvania, in a case of irrepressible hemorrhage, continuing several days after labor, had resorted at last to iodine. The uterus, although only three or four drops were injected, at once contraced, and remained so.

Dr. Sims did not think the sulphate of iron in hemorrhage was quite as popular in London as formerly, on account of the deaths from septicæmia. In an alarming case in his own experience, he had wrapped cotton saturated with solution of the sulphate around a pointed piece of whalebone, and at once arrested the hemorrhage when it was introduced. Tampons should be removed as soon after the arrest of hemorrhage as possible. When you take away the cotton, as above described, you take away the greater part of the sulphate.

Dr. Sims was anxious that the treatment of the pedicle in ovariotomy should be the subject of the first day's discussion at Chicago, and he now threw down the gauntlet to Dr. Atlee and other gentlemen for that purpose.

Dr. Busey's Address was then, on motion, referred to the Committee on Publication.

Dr Garrish, of New York, referred to the desirability of inducing premature labor in cases of threatened convulsions, of physicians carrying with them in their practice a laryngoscope and ophthalmoscope, etc. The prematurely born child should not be dressed, but placed in a warm bath, and afterwards wrapped in cotton.

The section then adjourned *sine die.*

THE NATIVE PHYSICIANS OF CENTRAL ASIATIC TURKEY.

By D. H. Nutting, M. D.

I went to Turkey in the year 1854, and for nine years was located in the city of Diarbekir, on the river Tigris; a walled city containing some 60,000 inhabitants.

I found there about a dozen physicians, all but one natives of the place. That one was a Greek, named Demosthenes, an Ionian, whose only qualification for the profession was acquired by an apprenticeship in an apothecary's shop in Stamboul. He had a tolerable knowledge of medicines, and that was all. His practice was perfectly empirical. He had an exhaustless amount o "brass" and self-conceit, and was an adept in the art of "humbugging" the people. Knowing that fear was generally regarded as an immediate cause of disease, he filled a large number of small bottles with a colored fluid, and labelled them "Kor-koo Elargu," or "Medicine for Fear;" and, for a time, sold large quantities of them in that and neighboring cities.

Of the native doctors, the most popular was Hekin Stipan, which being translated means Dr. Stephen. He was an Armenian, whose knowledge of medicine had been acquired while a servant of a French doctor, for about one year, and from a book, in the Armenian language, on Diseases and Remedies, published in Constantinople some sixty years ago, and written by an Armenian physician, said to have been educated in Paris. His practice, to say the least, was rather old-fashioned, having for its "sheet anchors" the lancet, tartar emetic, and calomel.

The next in rank was another Armenian called "Harpootly Hekin," or the Doctor from Harpoot. He was a large, pompous man, walked with a cane according to Frank custom, and looked very wise. While in Harpoot, his native city, I learned that he was formerly a tinman; but becoming possessed of a copy of the book before alluded to, he determined to become a doctor. So he came to Diarbekir, and commenced practice.

The third in rank was called "the blind doctor's disciple." While leading the blind doctor, his master, about in his visits to the sick, he was supposed to have acquired a sufficient knowledge of the theory and practice of the healing art.

The fourth was "Tartar Ogloo," or the son of a Tartar. His opportunities for acquiring a medical education were not, I judge, superior to those of the others. Some years ago, the Turkish government appointed a commission of doctors, who had been educated in the Sultan's medical school, at Constantinople (which is designed only to qualify physicians and surgeons for the army) to go through the land, from city to city, and examine the practitioners, and give a license to practice to such as might be qualified. They came to Diarbekir, and while examining this "Tartar Ogloo," they inquired where the heart was located, and he pointed to his stomach. They inquired why in some of the blood vessels the blood was of a light, and in others of a dark red color. He replied, "The light comes from the heart, the dark from the liver!"

The fifth was Doctor "Ginger Ogloo." He qualified himself for practice in a shop called an "Atar Tuken," in which spices, native drugs, and medicines are sold. I was called to see Hadji Mehemet Naim Effendi, one of the richest Moslems in the city, and a member of the Pasha's "megilis," or council, and found that this Dr. Ginger Ogloo had been prescribing ginger, oil of peppermint, cinnamon, and other medicines of this class, hoping to relieve him of the pain in his stomach. But day by day his patient was becoming worse. Ascertaining that he had acute inflammation of the stomach, caused by excessive use of "rakkie," to the great surprise of the native doctor, I ordered him to take ice, in small pieces, *ad libitum*, to abstain from his alcoholic drink, and use only those articles of diet which I directed. Dr. Ginger Ogloo, preceiving that ice worked a wonderful cure in this case, thought he would prescribe it for a patient of his who had pneumonia—and the patient died.

Time would fail me, if I should undertake to describe the other doctors of Diarbekir. Suffice it to say—that they were all worse than these I mentioned.

After I had been in Diarbekir four years, Dr. Bonelli, an Italian from Sicily, came there as army physician and surgeon. He was educated in Vienna, and was a man of considerable talent. His practice was chiefly confined to the two regiments of the Turkish army, stationed there.

I have since resided in several other large cities in Turkey, and made long visits to most of the interior towns, and I am convinced that the medical practitioners of Diarbekir are a fair sample of the native physicians in all parts of the empire, excepting a few chiefly in the seaport cities, who have been educated in Europe or America, and a few others, who have been trained and instructed by medical missionaries.

It seems a pity that the state of medical practice should be so low, in a country where the inhabitants esteem the medical art so highly, and rank a skillful physician almost as a saint.

THE TREATMENT OF DIPHTHERIA BY INJECTIONS PER RECTUM.

By W. H. Vail, M. D.

Mrs. G——, having lost a young son in New Jersey, last October, with renal dropsy, the sequel of an attack of diphtheria, came here in December to visit her sister, bringing a fur cap which her little boy had worn during his sickness. This cap her sister's little daughter M——, aged one year and ten months, wore the day before Christmas. Between Christmas and New Years M—— was dull and listless, though not sick abed. January 3d, I was called in, and pronounced it a case of diphtheria. A day or two after, Mrs. C—— called and spent some time in the sick room, contrary to my instructions. The next week her little girl had diphtheria and died.

It is to the treatment of M——, the medium between the other two cases, and the only one which it fell to my lot to have the charge of, that I wish to call the attention of the profession. On Monday, January 3, recognizing the symptoms as those of true malignant diphtheria, though as yet no membrane was visible in the fauces, I immediately began to consider, in the first place, the best means of maintaining our little patient's strength; and next, if possible, to limit the spreading of the membrane. To maintain the strength I prescribed cincho-quinine, iron, cream, and milk. To limit the spreading of the membrane, potass., chlor. and salicylic acid internally, steam and carbolic acid in the atmosphere of the apartment. But, alas! when I called Monday evening the membrane was visible in the fauces; and that trouble so very common in this class of cases, utter repugnance to swallow anything, was present. Immediately deciding that it was worse than useless to attempt to maintain her strength and combat the ravages of the disease by forcing down food and medicine, through the whole course of the attack, I turned my attention to the absorbing power of the rectum. I ordered the following injection to be given every six hours:—

℞ Cincho-quinine	gr. iij.
Potass. chloratis (sat. sol.)	ʒ ij.
Acid salicylic	gr. iv.
Tr. ferri chlor	ʒ ss.
Vini gallici	ʒ ij.
Cream	℥ ij. M.

No medicine or food was attempted by the mouth except keeping the tongue moist with cream, milk, ice, or ice-cream. The above injection was repeated every six hours till Tuesday evening, when, as her strength was rapidly failing, I increased the quantity of brandy to ℥ ss. in each injection, and ordered the enema repeated every four hours.

For five days and six nights this little patient took every four hours, by enema, the following:—

℞ Cincho-quinine	gr. iij.
Potass. chloratis (sat. sol.)	ʒ ij.
Acid salicylic	gr. iv.
Tr. ferri chlor	ʒ ss.
Vini gallici	℥ ss.
Cream	℥ ij. M.

The only variations in the composition of the injections were that after a day or so an ounce of beef-tea was substituted for one of the cream; twice, the quantity of brandy was reduced one half, but each time the failing pulse and weakness showed very plainly the need of more stimulus, and we were compelled to return to the usual quantity of half an ounce in each injection. During two or three nights, when the jactitation was extreme, it being difficult to keep her on the bed, ten drops of laudanum were added to each enema with the happiest effect The same amount of laudanum was added whenever the bowels rejected an injection; for whenever this occurred, another was given immediately, and in no instance was the second rejected. Nothing surprised me more in the history of this case than the retentive and absorptive powers of the rectum. Twice only did we add the laudanum to prevent the rejection of the enema, and the quieting tonic, and stimulating effects of an injection were plainly visible in less than an hour after its administration. The bowels moved quite regularly every other day, and although the movements generally occurred about two hours after an enema had been administered, nothing resembling an injection appeared in the fæces. On the contrary, the fæces were well formed and natural. After the first week, as the acute symptoms subsided, the injections were continued at intervals of six hours, the brandy at first being lessened one half, and soon discontinued; but the other constituents were continued in the same proportions for a fortnight longer, for it was not till then that the stomach would retain and digest food. As to the extent of surface invaded by the membrane, it completely covered the mouth, even to the lips, coating the fauces, and so blocking up the posterior nares that for four or five days the little sufferer was compelled to breathe wholly by the mouth. The stomach and small intestines were evidently partially or wholly coated, as she vomited patches of the membrane for a week after the subsidence of the acute symptoms, and patches were seen in the fæces for a fortnight more.

Fortunately the false membrane did not invade the air passages. I think that in loading the air with steam and carbolic-acid vapor, and giving internally salicylic acid and chlorate of potash, we have the best remedies for limiting the extent of the membrane. The amount of medicine in each enema, especially of iron, may seem very large for a child so young; but after watching very closely the effect of each dose, I was assured not only that they did not harm the little one, but, on the other hand, that nothing less would keep her from sinking. Nothing but these heroic doses saved her from being destroyed by the poison of this the most debilitating of diseases. As to these large doses of iron, I may say just here that I have now under treatment a confirmed tubercular patient, who has a large cavity in his right lung, but who has gradually worked his way up from fifteen drops to fifty drops, three times a day, of muriated tincture of iron, and is steadily improving.

I have reported thus at length the treatment of this case of diphtheria, because it seemed very important to me, and I want my brethren in the profession to give this new method a trial. It may happen that in the next case the bowels will not act so kindly. This way of treating the disease has at least the merit of being painless. If there is any way of managing diphtheria and croup without caustics, which promises equally good results, let us hail it with joy. I have only the one case to report. I am glad I had no others of that disease to treat; mine is not the disposition to long for such cases, but I shall wait anxiously for reports from others as to the efficacy of this plan.—*New York Medical Record, May* 13, 1876.

THIRTY-SEVEN OPERATIONS OF THORACENTESIS BY PNEUMATIC ASPIRATION.

By Frank Donaldson, M. D.

Clinical Professor Diseases of Throat and Chest, University of Maryland.

We propose to occupy the attention of the Faculty for a short time, to illustrate the value of Dieulafoy's aspirator in the treatment of subacute and chronic pleurisies, by a brief analysis of thirty-seven operations of thoracentesis in twenty-two subjects. Of these, seventeen were seen in consultation with other physicians. Of the whole number, five were cases of chronic pleurisy, where the fluid removed was purulent, and seventeen where it was serous in its character.

Of the cases of empyema, one was the interesting little patient of Dr. Gibbons, three and a half years old, upon whom we operated twice, at the request of Dr. Gibbons. This child completely recovered after five aspirations. Of the four other cases, two recovered perfectly: one after only one aspiration; the other after five aspirations, and the subsequent use of a draining tube for seven months. The remaining two, which were complicated with phthisis, died—one within a week, and the other after the use of the draining tube for four months.

Injections into the pleural sac were only resorted to in one case (tubercular in its nature); detergent washes of a feeble solution of carbolic acid were employed. The effects were not good; there was a rise of temperature, and an aggravation of unfavorable symptoms resulted. We did otn resort to injections of iodine, because the recorded results of their employment by Dieulafoy, Bucquoy, and Blachelz were not favorable to their use. Moreover, Monsieur Dujardin-Beaumetz's experiments had shown that the tincture of iodine, even when diluted, acted upon the india-rubber tubing as it passed through it, and conveyed particles into the sac which were positively injurious.

Unless cases are complicated with phthisis, we would continue to introduce the needle every few days, until we fairly test whether or not the surfaces will discontinue the production of purulent fluid.

Bouchut reports a case of a child who was cured after thirty-three aspirations! Dieulafoy gives one cure of empyema after nine aspirations, and a number after two or three punctures. Bowditch, Dieulafoy, Meigs and Blachelz all encourage us to persevere with these aspirations in empyema, especially in the young, where the disease is nearly always cured in a comparatively short time, unless it is complicated with tubercle. We claim that pus in the pleural cavity should never be allowed to remain when it can be removed by a process so simple, and, as our results will prove, so harmless as pneumatic aspiration. By Baccelli's method we have been enabled to diagnose whether or not the fluid was purulent or serous in its character. It is an accurate means of auscultatory diagnosis, because it is based upon the well-known physical law that the vibrations of sound in liquids are transmitted inversely to their density. In a serous fluid the sound of the voice passes more readily than in a purulent fluid. In the latter case it is scarcely audible.

Of course, patients suffering from empyema should be placed in the most favorable hygienic condition, and should be given freely of tonics.

Of the seventeen cases of serous effusions, they all, except one, as far as we could determine, resulted from subacute pleurisies, coming on insidiously, the individuals not being aware of the nature of their sickness until their chests were well filled with fluid. Of these seventeen cases, fifteen recovered after only one aspiration; one after two aspirations. One who, in addition had cirrhosis of the liver and finally died, was operated on five times, the quantity of fluid each time drawn off varying from 45 to 75 ℥. In thirteen of these cases care was taken to use the finest needles, half a millimetre in diameter, and in four cases the No. 2, which is larger, being one millimetre in size, was employed.

In three of these cases the heart was pushed over to the right of the sternum, and recovered its position within two days after the operation. In one case four punctures were made before we succeeded in placing the needle in contact with the fluid, owing to the long continuance (certainly over three months) of the fluid's presence, and the formation of fibrinous bands preventing the gravitation of the fluid; the last puncture was in the ninth inter-costal space near the vertebræ. In this case we removed 90 ℥; and although the patient was sixty-five years old, he suffered no inconvenience either during or after the operation. The withdrawal of the fluid was so gradual by the use of the needle No. 2, that the lung expanded without any inconvenience to the patient, until it was mechanically prevented by the pleuritic adhesions. In another case four incisions were made without drawing fluid, but the physical signs were so marked that we felt sure the fluid must be present, and at the fifth incision we were rewarded by finding the fluid in quantity. The acute case when admitted had a temperature of 103° F. We gave twenty-grain doses of quinine two nights in succession, reducing the temperature to 99° F. Finding the heart pushed to the right of the sternum and its apex beating below the zyphoid cartilage, we operated, drawing off 36 ℥, and three days afterward we aspirated 46 ℥. The patient had no return of the fluid, and he was discharged well within a week, the heart recovering its normal position.

In not one of these thirty-seven operations were there any unpleasant consequences, beyond, in a few cases, some inconvenience from a cough produced as the coated pleural surfaces came in contact. Whenever any of the patients complained of a sense of constriction in the chest, we at once withdrew the needle. In three instances, after the withdrawal of a few ounces of fluid, we noticed in the indicator there was flowing some bright scarlet blood. We concluded we had pricked the lung, and at once withdrew the needle. This was not followed by any unfavorable results; on the contrary, the patients rapidly recovered. Dieulafoy and others have reported numbers of cases where punctures of the lung were attended with no evil results, the fineness of the needle preventing any serious injury, the minute orifice made at once closing after the withdrawal of the needle. We now have the ingenious dome-trocar needles, made by Tiemann, by which, after insertion, the sharp needle-point is converted into a blunt canula; with this there is no possibility of injuring the lung.

The importance of exhausting the air in the cylinder before turning the stop-cock cannot be overrated, otherwise the lung is subjected to the jerk of the instrument as the rack is turned and the fluid withdrawn. Dieulafoy insists with pride upon this previous vacuum principle as one prominent advantage of his invention. This, together with the small size of the perforating needle, makes the operation innocuous.

We have generally inserted the needle at the lowest point in the seventh, eighth, or ninth intercostal spaces, midway between the vertebræ and a line drawn from the angle of the scapula. The insertion should be made quickly, and immediately above the inferior rib. After the eye of the needle is in the integument, we turn the stop-cock, and thus convert the needle and tubing into aspirators, as directed by Dieulafoy. The moment the fluid is reached it must flow through the needle into the receiver. We prefer that the patient should be in the semi-recumbent position, supported by pillows; but he may, if he prefer it, lie down. We have, in sensitive women, used local anæsthesia to avoid the slight amount of pain caused by the prick of the needle, but ordinarily this is unnecessary.

One word as to the indications for the use of the aspirator. Notwithstanding Trousseau's numerous cases, Fraentzel's elaborate articles, with the results collected from numerous observers, Dr. Bowditch's three-hundred and twenty-eight successful operations of thoracentesis on 207 persons, most of them by the use of Wyman's comparatively large-sized trocars, and Dieulafoy's hundred (he does not give his exact number), and numerous cases reported by others, yet many practitioners, timid perhaps naturally, or so from theoretical grounds, are unwilling to resort to the operation until there is imminent danger, as shown by great dyspnœa. There is such a thing as trusting too much to nature's benificent offices. We maintain that, with ordinary care, there is no danger in the operation; and that, unless the diffused fluid rapidly disappears under the ordinary treatment, its mechanical pressure may be the cause of death by displacement of the heart, by distortion of the large blood-vessels, and by thrombosis of the pulmonary artery. Deaths have frequently resulted from these causes. If nature, assisted by tonics and diuretics, and iodine, acts promptly to remove the effused fluid, it is not justifiable for us to interfere by mechanical means, no matter how little probability there may be of any unpleasant results from their employment.

During the past year we have had under observatien six cases, three of which were acute in their nature, where we did not operate, because the quantity of fluid was not large and the subjective symptoms resulting were trivial. They all recovered. In one case it was two months before the fluid all disappeared; in another, six weeks; in the remaining four cases, four weeks. In two of these cases the parties are still deficient in full respiratory force, and there is manifest impairment of the expansion of the lung for two or three inches at the base of the chest. If the fluid remains in volume sufficient to compress the lungs, it must seriously impair the respiratory function of hæmatosis. The lung becomes in time carnified and useless. The air-sacs are thereby so compressed that the air is forced out of them, their walls adhere, and they cannot be separated by the tidal column as it is drawn in by the inspiratory act. Finally, the fibrinous bands prevent the lungs from expanding and coming in contact with the ribs, and the external atmospheric pressure forces inward the walls of the chest. Unless the fluid is promptly taken up, the thickening of the pleuræ prevents the effused fluid from being absorbed, except very slowly. On the other hand, the rapidity with which patients recover after thoracentesis by pneumatic aspiration is very astonishing. This is in proportion to the promptness with which the operation is performed. If time is allowed for the formation of the adhesions to cripple the lungs, convalescence is necessarily slow.

The results in Europe and in this country of the application of Dieulafoy's method of operating, justify us in resorting to it without hesitation and promptly. The value of his instrument as a means of diagnosis in doubtful cases is very great.

In this connection I would call attention to a physical sign indicating the presence of fluid in the chest which is not ordinarily mentioned It is the quality of the bronchial respiration, which we consider very characteristic. It is a diffused, distant tubular sound, unaccompanied with moist rales, soft in its character, and muffled; in strong contrast to the bronchial respiration, resulting from consolidation of the lung, which is harsh and brazen in its tone. In the latter case the sound is immediately under the ear, the lung being in contact with the inner surfaces of the ribs and rendered a good conductor by its solidity, and the sound rendered louder by the increased consonating properties of the walls of the bronchi; whereas, in the former, the lung is removed from the walls by an indifferent conductor of its sounds, and the sounds are conveyed from the compressed lungs, at their base, by the walls of the chest, and, in a degree, by the deposits on the pleural surfaces.

There are three other physical phenomena which we consider very valuable in assisting us to make the diagnosis of the presence and extent of the effusion in the pleural sac. One is the peculiar semi-tympanitic resonance on percussion heard above the level of the effusion, especially beneath the clavicle and in the region next to the sternum. We have verified Trousseau's statement that this sign, described by Skoda, and called *retentissement skodique*, is rarely absent in pleurisy when the effusion does not come up above the fourth rib. Intercostal fluctuation, especially in the younger subjects, can frequently be appreciated when we press carefully with the palmar surface of the finger between the ribs, while the percussion stroke is applied to another part of the same side. If we auscultate with a stethoscope, the chest extremity of which is made to fit in between the ribs, while another party percusses the chest, we can almost always detect the fluctuation within the chest. These physical signs we consider as more reliable, as isolated, than the dullness on percussion, or egophony, and as valuable as absence of vocal fremitus, or increased amplitude of the chest. Taken with them, they make the diagnosis easy and simple.

The result of our experience in the use of this treatment is, that it ought always to be used in cases of empyema, which can only be ascertained with certainty by Baccelli's method, or by employing the aspirating needle as an exploring instrument. If, after a few operations, the purulent fluid continues to be formed, the draining-tube should be inserted, and worn until there is no purulent discharge.

In acute cases, if the fluid rises rapidly above the angle of the scapula, or if there is any moving of the heart from its normal position, or any distortion of the large blood-vessels, the operation should be promptly performed. If there is any oppression of the breathing, the demand for the operation is imperative. Antipyretics, such as quinine and digitalis, should be employed, but veratrum viride and aconite should be avoided on account of their power to prolong the diastolic movements of the heart.

In sub-acute cases, the value of the prompt and repeated use of the aspirator is very great. The absorption of the effused fluid in these cases is generally very slow, and the injury of the lungs is very great from the prolonged pressure, causing carnification of the lung, and the adhesions and pleural thickening interfering with the expansion of the air-sacs after the fluid has disappeared. Of course we would give nature a reasonable trial of her power to absorb the fluid without mechanical interference on our part. If, in a week or ten days, it continues to increase, or does not lessen in quantity, we would operate.

We cannot insist too much upon the necessity of employing very fine needles, and that the operator shall at once desist from the use of the aspirating force as soon as the subject complains of constriction of the chest, or if a constant cough is produced.

With these precautions used, we believe the employment of the aspirator is safe, and of great practical value in the treatment of pleurisies. Formerly, when we used the ordinary trocar, we were timid in operating, for we felt there was danger by thoracentesis of introducing air into the sac, and converting a serous into a purulent fluid, and of injuring the lung and perhaps producing pneumo-thorax. With Bowditch's (Wyman's) pump, we felt more confident, and we never had any such unpleasant results. Now, with Dieulafoy's previous vacuum and capillary needles, we feel that without great negligence it is impossible to seriously injure the lung or introduce air.

We are aware that unpleasant results have sometimes followed the operation of thoracentesis, and sudden deaths have been reported. We have never been so unfortunate as to meet with such cases. It is difficult to explain the fatal cases, unless we suppose that there had existed some organic disease of the valves of the heart, or fatty degeneration of its walls. MM. Legroux and Vallin state their opinion that deaths may occur in thoracentesis from cerebral anæmia, and from plugs of fibrin formed in the pulmonary veins while the lung was compressed by fluid; fragments becoming detached during the expansion of the lung. There is no warding off or foreseeing such a pathological condition. As has been suggested by Niemeyer, the cause of the fatal syncope may be from œdema of the lungs. If the effusion has not existed for a long time, ordinarily the lung expands as we aspirate the fluid, and the patient bears it without inconvenience; but if the lung is prevented by hyperplastic tissue from following the withdrawal of the fluid, the continued use of the aspirating force produces paroxysmal cough; the occurrence of which ought at once to make us desist from further withdrawal of fluid. Any appearance of faintness should cause us to lay the patient in the recumbent position, immediately stop the operation, and resort to stimulants. If the patient is weak and has suffered long, it is best to operate while he is in the recumbent position. We prefer to operate about an hour after the digestion of a good meal—patients bear the shock better.

It is stated in the French medical journals, that recent statistics show that since thoracentesis has become a common practice, the mortality from pleurisy has increased in France. It is difficult to account for this, if it is true, especially as all observers who have used the aspirator most frequently, report very few cases where the results of the operation have not been highly favorable. It may be that the cases of sub-acute and chronic pleurises attract so much more attention than formerly, and that the diagnoses are more accurate. Louis' law, deduced from 150 cases to acute pleurisy, that patients never die from the effusion, was long since disproved by Trousseau. Lacaze du Thiers published a number of cases of sudden death from the amount of effusion. Many of the cases of empyema are complicated with phthisis, and when death occurred they were formerly registered as from phthisis; whereas now, after paracentesis, they would be recorded as from chronic pleurisy. It must also be borne in mind that sub acute and chronic pleurisies are frequently consecutive to diabetes, Bright's disease, chronic alcoholism, cirrhosis of liver, and other organic diseases. Patients die of the primary lesions, though relieved of the secondary ones. Statistics may record the deaths from the pleurisies for which there was operative interference, instead of from the organic diseases.

It is impossible to estimate the number of the cases of permanent injury to the lung from the fluid remaining for a long time in the pleural cavity. It is a well-known fact that at almost all post-mortem examinations of phthisical subjects, we find extensive adhesions which must have interfered with the power expansion of the lungs. These could not have been caused by dry tubercular pleurisies, which are generally over a very circumscribed spot, but must have been from sub-acute pleurisy, in many instances not recognized during life. From these evidences of previous pleurisies we cannot but agree with the received belief that they are frequently the commencement of cases of tubercle, notwithstanding Dr Flint's conclusion from his forty-seven cases of pleurisy that phthisis was a rare result.

We have delayed the Faculty longer than we intended; we merely wished to give the result of our experience in the use of Dieulafoy's aspirator. This, as far as thirty-seven operations in twenty-two subjects are of any value, has proven it to be an instrument of great efficiency, and harmless when used with ordinary care. Dr. Loomis' opinion that aspiration should be used when the fluid accumulation remains stationary for one week, or is found to be increasing after the cavity is half filled, we believe to be correct. The timely performance of the operation, as he states, in a large number of cases of sub-acute pleurisy, tends to promote rapid recovery, and prevents those changes in the pleura which lead to tedious convalescence and incomplete ultimate recovery.—Baltimore, *April*, 1876.

A PLEA FOR SCIENTIFIC TOLERANCE.

American Colleges versus American Science is the subject of an interesting paper in the August number of the *Popular Science Monthly*, by Prof. Clarke, of the University of Cincinnati. It shows very forcibly the evil results of the multiplication of weak institutions under the name of colleges and universities. A single professor is compelled to teach two or three branches, having no intimate connection with each other, and any one of which should absorb all his time. He has not sufficient apparatus, where apparatus is needed, and his salary is too small for him to buy the books he requires. The writer deplores this condition of things in regard to science, but it is equally hostile to real advancement in every department. Again he complains that—

"Every year professors are chosen, not on account of scientific ability, but for reasons of a theological or sectarian character. If two men, one a Baptist and the other a Unitarian, were candidates for the same professorship in a Baptist University, the former, even if very much inferior to his rival, would almost certainly be elected. There may be exceptions to this general rule, but they are very rare. Even at Princeton issues of this sort are frequently raised, and the ablest candidates have been rejected on purely dogmatic grounds. Theological soundness in such an institution far outranks scientific ability. If Laplace had lived in America, no college would have tolerated him for an instant. Almost any decayed minister, seeking an asylum, would have beaten him in the race for a professorship. Not many years ago, the ablest chemist America has ever produced, was a candidate for the chair of chemistry in a very prominent eastern college. He did not believe in the Trinity, and for that reason alone failed of an election. The immorality of such a system is manifest. * * * Moral character ought, of course, to be considered, but mere speculative belief never."

Without stopping to inquire into the justice of the charge that an *incompetent* man of sound religious principles would be preferred to an able latitudinarian, it may be said that "mere speculative belief" is of more importance in the estimation of most American parents, as well as faculties, than in that of Prof. Clarke. Well established physical facts are received by all. Yet hypothesis respecting the origin and development of these facts are often the very next thing to pure theological dogmas, and fully as much the subject of partisan treatment. Laplace said that he had no need of God in his system of celestial mechanics. Supposing him an admirable teacher, should his young and indiscriminating pupils accept his atheism with his mathematical formulas? His hardly less famous contemporary Lalande was equally busy in teaching mathematics and atheism, until Napolean I. told him to let theology alone. The "ablest chemist," to whom Mr. Clarke so feelingly refers, is now the editor of a periodical which zealously champions all the extreme views of Huxley, Spencer, and Tyndall as established truths, praises Draper's shallow conflict, and studiously keeps in the background whatever is advanced in opposition to men of this school. Was an institution controlled and supported by men who deem religious skepticism soul-destroying to employ its zealous advocate merely because he was a good chemist.

If there were such a person as an impartial student of science, free from theological or anti-theological proclivities, earnestly devoted to the study of law and phenomena, and carefully avoiding all premature attempts to change popular convictions, his sectarian affinities would be of less consequence. It so happens, however, that the men specially fond of calling themselves scientists, are the most zealous dabblers in the theological subject from the anti-theological standpoint. Early in the present century more than a score of direct anti-Christian hypotheses were made prominent in Paris. They have all disappeared. The religo-astronomical theories of Dupuis, which are said to have inspired the French scientific expedition to Egypt, are now forgotten. Nobody believes that the zodiacs of Esneh and Denderah are of marvelous antiquity, for their Roman origin has been established. Twenty years ago science was confident that the races of man were of diverse origin. Agassiz was sure of it, and Nott and Gliddon published a work in which the irreconcilable opposion of the doctrine to that of the sublime was emphasized. According to Mr. Clarke no college should have declined the services of the gentlemen last named. Yet they would have undermined the religious principles of many a youth, only to have been declared in error by the disciples of Darwin as well as by old-fashioned believers.

Just now very different theories are in vogue. Time must show how much of truth they embody. Would Mr. Clarke regard the appointment of Ernest Hasekel with favor as one of his co-professors? Hasekel not only assents to all the theories of Darwin as established facts, but thinks that by this acceptance there remains no longer any reason for believing in God or creation. Darwin does not go so far as his enthusiastic disciples, and people differ in regard to the extent to which his system is reconcilable with Christianity. If there be any conflict, the mass of our people are not ready to accept his explanation of physical phenomena, and lay aside their own convictions, until sufficient evidence has been produced. There can be no doubt that issues have been raised by some of Mr. Darwin's followers, if not by himself; and that the odium anti-theologicum rages with them at least as furiously as the odium theologicum on the opposite side. There has been an excess of the sectarian spirit in the founding of colleges, for there is no real connection between Methodism and mathematics, Presbyterianism and the Latin or Greek classics, or Unitarianism and Chemistry. There is, however, a fierce conflict between those who would subordinate everything to physical law, and those who believe that truths exist which are not affected by gravitation. When the speculations of the former shall have been verified by the intelligent experience of eighteen hundred years, or even half that period, it will be time for the other camp to haul down its flag, for it will then know to what it has surrendered. Science is a comprehensive word, but thus far it smeaning has very frequently shifted. We know of no better exercise for the believers in its infallibility than to read in succession the different editions of Lyell's Geology and Antiquity of Man. If such changes of position were required in the life of a single man, what may we not expect in the course of the next half century? Meanwhile, it is the safer course to keep the young close to their moorings. Mistakes in religion and morals are quite sure to prove very disastrous, while no man is likely to be made better or worse by knowing whether he owes his peculiarities to the stability or mutation of species. We think the shoemaker should stick to his last; but if Prof. Clarke can show how a teacher can be neutral, in both precept and example, in the contest now in progress, he will achieve a success gained by no one else—*Gaz.*

HOW TYPHOID FEVER IS SPREAD.

Dr. Frankland, in a recent address to the Fellows of the Chemical Society on the Organic Impurities of Drinking-water, adduced, as a striking instance of the persistency of the typhoid poison when diffused in water, the outbreak of a violent epidemic of typhoid fever in a Swiss village, through the use of spring water which, after contamination with the poison, had filtered through nearly a mile of porous earth, but had nevertheless lost none of its virulent properties. The occurrence in question is one of the most remarkable, if not the most remarkable, on record, and the circumstances in connection with it have been exhaustively investigated by Dr. A. Hager, of Basel. The facts, concisely stated, are as follows:—

In the village of Lausen (on the railway from Basel to Olten) epidemic enteric fever had never occurred in the memory of man, and the neighborhood was also free. The ground consists of marl and lime, and is tolerably water-holding. Certain well-water was only used by the inhabitants of six houses, while the other inhabitants (780, in 90 houses) used the water from a public spring which arises at the foot of a hill, the "Stockholden." This water is received into a reservoir, and then led, by wooden pipes, into four stone tanks. On the 7th of August, ten inhabitants were attacked, and in nine days more fifty-seven persons were sick with typhoid fever. These cases spread over the whole village using the spring water, but the inhabitants of all the houses which had wells of their own were entirely spared. To the end of October, 130 persons were attacked, besides several children; and towards the end of the epidemic two persons were attacked who lived in the houses which did not have the water from the common spring. The proof that the spring water had distributed the "infectious matter" was based on the following: Stockholden is a hill 300 feet high; its westerly spur extends into a little side valley. Through this little valley runs the Furler streamlet, which beyond the village of Lausen ends in the "Ergolz." In the Furler valley were some scattered farm-houses. In one of these farm-houses, in June and July, two persons were attacked with typhoid, and later on two others. The latrines of these houses were all in direct connection with the brook, but this opens into the Ergoltz *below* Lausen. After accurate inquiry it was found, however, that the Furler brook communicated directly with the spring descending from the Stockholden. It was known to the inhabitants of Lausen that when the meadows in the Farler valley were watered, the spring increased in amount; besides, about ten years ago, 100 paces below the infected houses in Furler valley, the upper-earth strata had fallen in, and formed a large opening, into which some of the water of the Furler brook flowed without again reappearing. After the hay harvest in July the meadows were water-manured, and the spring in Lausen shortly afterwards obtained a turbid and bad-tasting water. The ground was geologically explored, and when the above-named spring was dug up, salt water was poured into the Furler brook and made the spring in Lausen quite briny. The passage of water from the irrigated meadows to the spring at Lausen was proved by dissolving in it, at the meadows, eighteen hundred-weight of common salt, and then observing the rapid increase of cholerine in the spring water; but the most important and interesting experiment consisted in mixing uniformly with the water fifty hundred-weight of flour, not a trace of which made its way to the spring; showing that the water was filthered through the intervening earth, and did not pass by an underground channel. The conclusion is obvious, namely: the risk which attends the use, for dietetic purposes, of water to which even so-called purified sewage gains access, although, as in the case of Lausen, such water may be used with impunity until the moment when the sewage becomes impregnated with typhoid poison.

A NEW TEST FOR ALCOHOL.—Dr. Edmund Davy, at a recent meeting of the Royal Irish Academy, described a new test for alcohol:—One part by weight of molybdic acid added to ten parts by weight of sulphuric acid forms a mixture, a drop of which, added to a solution containing alcohol, instantly detects it by producing a blue discoloration.

Gleanings.

NITRIC ACID AS A CAUSTIC IN UTERINE PRACTICE AND ITS SUPERIORITY AS SUCH TO NITRATE OF SILVER.—Nitric acid is the caustic which, of all others, is the best adapted for use in cases of chronic inflammatory disease of the os and cervix uteri, resulting in erosion or ulceration. Nitrate of silver is inefficient, and requires frequent reapplication, to atone for its defects both in degree and in the nature of its action. Nitric acid on the other hand, acts as a caustic in these cases with certainty, and neither does too much nor too little. Its application is productive of little or no pain; and, when it has once been properly applied in some cases, no further speculum examination is required, such reliance may be placed upon its effects. If an examination be made, which is always better, it need only be after an interval of a month, and then the acid may be applied again to any spot which appears to require it. The resulting sore has a very strong tendency to heal, and does so partly by contraction and partly by fresh formation of mucous membrane, which is not cicatrical in appearance. The contraction is greater than follows the application of any other caustic, and is the very thing required to insure the permanence of the cure. The contraction in cases of cervical catarrh is only contraction to a healthy size of the canal, provided the acid is used with proper care. The peculiar lasting and permanent action of nitric acid enables us to do away with the repeated speculum-examinations, so distasteful to both patient and surgeon, and gives the latter a feeling of confidence of success which he cannot have with any other caustic. The use of nitric acid, common as it is in other diseases, is referred to by very few writers, and is entirely omitted by most of our standard authors upon diseases of women, all of whom recommend nitrate of silver, or mention its use as the usual practice.—*Obstet. Jour.*

ULCERATED NIPPLES.—M. Legroux advises the following treatment: Spread with a camel-hair brush a layer of elastic collodion around the nipple, in a radius of an inch or more; a piece of gold-beater's skin should then be placed over the nipple and collodion, taking care to make a few holes with a pin over the part of the gold-beater's skin which covers the nipple, so as to allow the milk to ooze through. No collodion should be spread on the nipple itself, as some pain might thereby be occasioned. By the rapid evaporation of the ether the collodion dries up, and the gold-beater's skin adheres. The nipple is then more or less pressed down by the latter, which in drying becomes tense. When the child is to be nursed, the end of the nipple should be wetted with a little water. The gold-beater's skin which covers it becomes soft and supple, allows the nipple to swell, and protects the ulcers and fissures from the strain of suction. The mother or wet-nurse thus suffers no pain, and the ulcers heal in a few days.—*Lancet*, Dec. 11, from *Annales de Gynecologie*, Nov., 1875.

AN IMPROVED METHOD OF OBTAINING SUPPORT FOR FRACTURED BONES OF THE EXTREMITIES (New York *Medical Journal*, September, 1875).—Dr. S. Wackerhagen uses the following method in treating fractures of the long bones:

After replacing the fragments as accurately as possible (extension being maintained by assistants), the limb is smoothly bandaged with cotton wadding, prepared in the form of an ordinary roller; a flannel bandage spread with dry plaster of Paris, and rolled, is now soaked in warm water (to which are generally added about two fluid ounces of saturated solution of sulphate of potassium), and applied to the limb, over the wadding, by circular and reversed turns. One layer of the flannel applied in this way is amply sufficient for support.

When we wish to inspect the point of fracture, the dressing, which is only about an eighth of an inch thick, is easily cut through with a pair of curved scissors.

If it be desired to employ lateral splints, the dressing should be cut in the median line of the anterior and posterior surfaces. If antero-posterior support is preferred, it should be cut through the lateral surfaces. The splints should now be varnished on their inner and outer surfaces with shellac, or this preparation may be applied to the outer surface before removal.

The shellac seems to permeate the dressing sufficiently to increase the strength of the splint, and at the same time renders it slightly flexible instead of brittle, as is the case when plaster of Paris is used alone.—*Medical Times.*

Microscopy.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

The fourth annual reception of the San Francisco Microscopical Society was held in Mercantile Library Hall, on Thursday evening, May 25, and the many ladies and gentlemen present, who were fortunate enough to be invited, went away pleased with the results of the endeavors of the gentlemanly exhibitors to give a pleasing and popular entertainment.

The Society endeavored to make the reception instructive as well as interesting, by exhibiting a series of objects selected from the various departments of Nature—mineral, vegetable and animal—in a somewhat orderly arrangement. It is difficult to particularize, were so much was to be seen, but Mr. Atwood, in Micro-Lithology, and Messrs. Hanks and Murdoch, in Mineralogy, exhibited objects pertaining to their departments of great beauty and scientific interest, while Dr. Burgess, in Micro Chemistry, pleased all, and particulary the ladies, by the changing flashes of light produced in crystals, by the aid of polarized light.

The lower forms of vegetable life were shown by Mr. Kinne, who took occasion to fully explain the curious and wonderful powers of motion found in the *protococci* and *diatoms*, and it was hard for him to convince many who witnessed the very positive movements of these plants that they were not animal instead of vegetable structures.

Mr. J. P. Moore, in the higher *algæ*, exhibited many curious objects, and aided the observer by a series of fungoid growths laid on the table, selected from his herbarium, to understand some of the mysteries of their propagation.

Messrs. Denison and Langstroth, in vegetable tissues and organs, ably filled their part of the exhibition, the series of pollens of the latter attracting marked attention.

Passing to the animal kingdom, we found Mr. Banks, with some of the lower forms, and hardly noted any well drawn line in the transition, remembering the active little plants in the stage of Mr. Kinne's microscope, yet the animacules, with the beautiful little groups of cilia, arranged like revolving wheels at the mouth of the animal, called forth many marked expressions from those unused to the sight.

Mr. Myers carefully explained his objects, and late in the evening placed a part of the gill of the common sea mussel on a slide to show the movements of the cilia, which was finely done. The earnest desire of those in waiting to take a look often prevented the removal of one object from the stage, and many missed seeing the ciliary action of the shell fish in this case, as well as others, till late in the evening.

Dr. Dennis came in late, and we got just a little mixed in what we were to see, from the fact that his number was occupied by a spare instrument with another series of objects for a time; but we managed to get a glimpse at the compound eye of an insect, and what answers to the lungs of a butterfly, when he got things straightened out.

Mr. Hyde next attracted attention with matters of interest, by showing the *trichinæ*, itch insect and *phylloxera*, parasites of unquestionable voracity, and took occasion to explain the various modes by which each fulfilled their allotted place in nature and earned the name of *pest*.

Mr. H. K. Moore, as usual, attended to the trait of character so strongly developed in and by the ladies—love of the beautiful—by exhibing the scales of various insects, arranged to represent a basket of flowers, with a bird hovering over it, and all parties voted it just splendid.

Dr. Mouser showed, under a quarter-inch objective, the striated voluntary muscle fibre and the anastamosis in the capiliary blood vessels, both characteristics being brought out clear and distinct.

Messrs. Boswell and Ewing, as well as Dr. McQuesten, dealt in objects pertaining to the structure of man, and from these three gentlemen many learned more of how fearly and wonderfully he is made than they were previously informed.

Dr. Harkness' exhibit of the circulation of blood in the mesentery of a frog, showing the characteristic elliptical red corpuscles of the Reptilia, with the white or colorless corpuscles, attracted the attention of everyone present. The doctor had considerately put Mr Frog to sleep with a subcutaneous injection, and, judging from the way in which the observer kept their eyes glued to the end of the tube, it was one of the most interesting objects on the list, although Dr. Wythe's preparations of morbid structures were not passed over with a single glance, and his objects very properly closed the list, as the others had been graded from inorganic to organic, up through the vegetable to animal, and here in the pathological study of man we found the end of things.

The whole exhibition was a decided success, and passed off smoothy and pleasantly to all. The half a dozen gentlemen who started in but four years since to build up a working society to foster this most truly fascinating study of microscopy, may well feel proud of their success, and of the many scientific gentlemen they now count as members of the San Francisco Microscopical Society.

A Lecture on Lenses.—This is the title of a pamphlet by Mr. Joseph Zentmayer, of Philadelphia, the distinguished maker of microscopes. It occupies some 23 pages octavo, and is the best elucidation of the department of optics involved in lenses we have ever met. Those important aberrations, as spherical aberration, chromatic aberration, curvature of field distortion, and astigmation, are fully treated and so clearly explained as to be easily understood by the intelligent, but not scientific, reader. We recommend the study of the lecture to all students of microscopy who do not feel themselves to be learned in optics.

W. J. HICKIE ON ZEISS' 1-25th IMMERSION.

* * * * * These considerations have suggested to me that possibly, where a foreign objective is tested on a microscope for which it was not constructed, and gets suspected of imperfect centering, the blame may be more justly apportioned between the maker of the microscope and the maker of the adapter. The chances, then, of perfect centering, as the phrase is popularly understood, are something infinitesimally small ; and the generality of French and German opticians do not seem to distress themselves to any great extent about its attainment. Their *modus operandi* is pretty much as follows :—The back combinations are fixtures, put together and placed as fairly as is compatible with a moderate expenditure of labor. The workman then addresses himself to what he regards as the real business of the day, that is to "marrying lenses," as he calls it. In other words, he tries on front after front, taken almost at random out of a great number, till he hits upon that one which exactly accommodates itself to the previous combinations, these fronts being, as an optician expressed himself to me, "made in bushels ; yes, sir ; made in bushels by girls." I could give, if it were desirable to do so, a goodly list of French and German opticians who follow this facile plan of manufacturing "first-class objectives." On the other hand, I could only mention two with any confidence, who, to judge by their workmanship, appear to follow a better advised method, and these two are Zeiss and Seibert. Glasses made on the first plan are easily recognized. Let the intending purchaser only hold them up to the light, and he cannot fail to notice the enormous disproportion between the breadth of the front lens and the breadth of the hindermost lens. There is, of course, a trick in this. As spherical aberration turns upon the fact that the focus of the peripheral rays is always shorter * than that of the central rays, which disparity increases, *pari passu*, with the distance from the axis, it is quite conceivable that the adaptation of an extremely minute front lens to wide back combinations may shorten the labor of correction very considerably. Such glasses, when used with a low eye-piece, sometimes exhibit very brilliant definition ; but then it is only within a certain limited range of the correction-screw. They will also generally be found, in spite of their good definition, to break down under deep eye-pieces, which popular theory says they ought not to do, and are further characterized by having almost no working distance, while their real magnification is always vastly below the nominal amount. * * * * * * *

I may now briefly state what I have been able to do with this lens of Zeiss'.

(1) Resolved Moller's (so-called) *Nitzschia curvula* into dots, and that too with the greatest prominence.

(2) Resolved every three out of five frustules of *Amphipleura pellucida*.

(3) Resolved the transverse lines of *Stauroneis spicula*, with the frustule lying vertical ; that is, with the lines in the same direction as the illumination.

The first, I dare say, does not amount to much ; and the second, perhaps, is not more than people usually expect from a first-class objective ; but that there are *many* glasses able to do the third, and with the same means, is what I shall believe—when I see them do it.

I wish also to have it distinctly understood, that by "resolved" I do not mean "a wheen o' skarts" dimly visible through a dirty mist, but a complete resolution.

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* Thus, if we divide the periphery into a number of zones, the rays of the outer zone will have a shorter focus than those of the next zone, and the rays of the second zone a shorter focus than those of the third zone. See Nageli, *l. c.*

In doing the second I employed a silver mirror, with bright sunlight modified by blue glass. For the first and third I had merely a Bockett lamp, with a silver mirror assisted by certain paper shutters

On the evening of the 7th of March I also saw with this lens, clearly and distinctly, the *longitudinal* lines of *Nav. crassinervis*, for the first time in my life. Did the same again on the 13th.—*M. M. J.*

PROF. J. EDWARDS SMITH vs. THE NACHET ONE-FIFTH.

FRIEND THACKER:

In one of the late numbers of the NEWS you called attention to the proceedings of the San Francisco Microscopical Society, wherein it was stated that a Nachet No. 5 objective resolved No. 19 (N. Curvula) of the Moller Platte into beads, and intimating that its performance was superior to the Society's Tolles duplex 1-10th.

You good naturedly inquired (I quote from memory) "What will Prof. Smith, whose articles teem with the wonderful performances of the Tolles' lenses, think of this?"

Knowing full well the superiority of the Tolles' "Duplex" objectives, I could afford to wait quietly and let time do the work. It so happens that I did not wait long; there was no serious delay. In the report of the last meeting of the San Francisco Society, which you will doubtless print, the cat is let out of the bag; the fog lifts, and in the clear atmosphere we behold the Tolles' duplex triumphant; and now Prof. Smith has a word to say.

When I first received the duplex $\frac{1}{6}$th and 1-10th for examination, I spent over a month studying the objectives, and submitted them *to every known test.* At that time Mr. Morehouse had received from Herr Moller test objects, "more difficult than No. 20 of the platte," and these were kindly loaned me by Mr. Morehouse for the purpose of testing the new objectives. It was *after* these protracted and exhaustive comparisons that I felt at liberty to publish in the NEWS and elsewhere my convictions as to the superiority of the Tolles' objectives.

Quite different from this was the course pursued by our San Francisco friends. They published the work of the Nachet glass over a *single valve* of the Moller platte. They did not even take the trouble to compare either Nos. 18 or 20, involving only a slight change of the platte, and on this slender testimony—a single shell on a particular platte—was published the announcement which set a particularly large flea buzzing about our ears. It turns out that by some inadvertance Moller substituted (probably) in place of the true N. Curvula a shell known as a variation of N. Linearis. The form of this valve is almost identical with Curvula, but the markings are coarse, show as dots, and would not be a severe test to a good quarter objective.

Messrs Hyde and Ashburner seem to feel a little sore that Moller should have made such a blunder and thus involve them; but I do not propose to let these gentlemen off so easily, for it was their business to have discovered Moller's mistake *before*, not after, the printing. The fact simply is, that the publishing of the performance of the Nachet was a little premature, and if Messrs. Hyde and Ashburner got a little scorched, they are good natured enough to allow us a friendly smile at their expense.

As to the capacity of the Tolles' "duplex" lenses—I do not care to change one word of what I have printed. In place of retracting anything, my subsequent experience with these glasses proves that I have not done them full justice. Now that these objectives are endorsed by Dr. Carpenter, of London, I feel a little proud of my own past efforts.

As I am recovering slowly from a dislocation of the shoulder, and will have a month or so of leisure time, I offer to the doubting ones to visit and to *show* the work of the "duplex," over the Nobert and Moller plattes, either to individuals or to clubs of three or four persons, as may be arranged—simply claiming, if successful, that my bare expenses be paid.

J. Edwards Smith,
Cor. Member San Francisco Microscopical Society.

DISCOLORING AND STAINING VEGETABLE TISSUE FOR MICROSCOPICAL EXAMINATION.

By George D. Beatty, M. D., Baltimore.

[Concluded from page 436.]

Process III.—*To Stain Sections in Green Analine and Carmine.*

1st. Put your section in a three-grain solution of iodine-green, and let it remain for one or two hours.

2nd. Soak in alcohol for five or ten minutes, for reasons given above.

3rd. Put in water for a minute.

4th. In the borax carmine from thirty to forty-five seconds.

5th. Shake rapidly in water, and soak out any excess of carmine that may be taken up.

6th. Put in alcohol for five minutes.

7th. In clean alcohol for ten minutes.

8th. In absolute alcohol for ten minutes.

9th. In oil of cloves for fifteen minutes.

10th. Mount.

Process IV.—*To Stain Sections in Green Aniline and Carmine Compound.*

1st. Mix fifteen drops of borax carmine with fifteen drops of the three-grain iodine-green solution.

2nd. Tranfer section from alcohol to water for a minute.

3rd. Put in the dye from thirty to sixty seconds.

4th. Shake rapidly in water, and soak out any excess of carmine that may have been taken up.

5th. Treat with alcohol and oil of cloves as in process III.

Ammonia carmine may be used in the same proportion as the borax. Formerly, in process III., I used the carmine before the green, but I now follow Dr. B. W Barton's plan of using the green first, as far better results are thereby obtained.

To stain sections in hæmatoxylin and aniline blue, the procedure is the same as for leaves; but they stain more rapidly, and only require the dilute dye.

Whether sections are stained by the alternate or by the compound methods, the selection of colors is the same. The red and green aniline and the hæmatoxylin go to the spirals, bass cells, scattered thickened cells, and, sometimes, to thick epidermis and hairs.

The blue aniline and carmine always go to parenchymal and often to thin epidermic and hypodermic tissues. The selection of color in matured wood is different, as will be seen further on.

It is not possible, I think, to give a satisfactory explanation of double staining of either animal or vegetable tissues. We can only say that certain dyes seem to have an affinity for certain cells. This is best shown by soaking single stainings in a fluid that removes their color. If sections stained in red or in green aniline be soaked in alcohol, and those stained in hæmatoxylin in alum-water, the color will rapidly leave the loose parenchyma, but will be retained for many days by the denser cells, as spirals, bass, etc.

On the other hand, specimens stained in blue aniline, if left in alcohol, and those stained in carmine, if left in water, lose the color much more slowly in the parenchymal than in other parts.

In my previous paper on double-staining of wood, etc., I said, if the blue was used before the red aniline, the selection of color was reversed. This is true as regards matured wood, but does not hold good when stems and midribs are under treatment.

Matured wood is better stained by the alternate methods. In longitudinal cuts, the first color used goes to longitudinal woody fibres, the second to spiral vessels, duc.s, and bark. Sections of stems and leaves not infrequently give better results by the compound methods. These results are superior to those obtained in wood, for the reason, I think, that in the latter there are not the same extremes of hard and soft tissues.

Double stainings should be examined by artificial light. Compound dyes should be used immediately after they are made.

Care should be taken to obtain a good article of absolute alcohol. That manufactured by Dr. E. R. Squibb, of Brooklyn, U. S. A., gives me perfect satisfaction, while a German article I have used bleaches blue and green aniline stainings as though it contained some alkali.

Benzole instantly fixes those anilines that fade in alcohol and oil of cloves; but it does not do to tranfer objects from alcohol to benzole except through the medium of oil of cloves, on account of the injurious contraction it causes.

It should be borne in mind, that chlorinated soda acts somewhat injuriously upon starch and protoplasm. This is not the case with dilute nitric acid and chlorate of potash, nor with alcohol.

In regard to fading, an experience of eighteen months enables me to speak quite favorably.

Some few leaves stained in blue aniline and in hæmatoxylin fade injuriously; others lose little or no color. Sections double-stained in green and carmine have perfectly stood the test of twelve months. Those in magenta and blue as a rule hold well.

If the effects produced by staining properly-prepared vegetable tissues, with one or two colors, were more generally known and availed of, the study of vegetable histology would be even more attractive than at present. So striking and precise is the manner in which certain dyes seize upon certain tissues, that it must be seen in order to be fully appreciated.

A word about the cutting of sections, for much depends upon this preliminary step. They must be cut thin and even.

Vegetable parts cut into pieces should be kept in aclohol for a week or two before sectioning If leaves become crisp, which rarely occurs, a few minutes' residence in water renders them pliable.

In making sections of leaves, longitudinal cuts of midribs may be made, or vertico transverse cuts through the midrib, including one-third of an inch of leaf on either side, or through several veins; leaves and small stems held against a piece of potato or turnip that has been hardened in alcohol, may be cut with a razor flat on the side, which is inferior when the back is held toward you. Alcohol should be poured over the object and razor while cutting. Large stems are better cut in a section-machine, using paraffine as an imbedding agent. The object should be flooded with alcohol while cutting, and the paraffine should be trimmed to a cone-shape around it after every two or three cuts.

A knife I use with my section-cutter acts so satisfactorily upon both animal and vegetable tissues that I will describe it. It weighs 7½ ounces (avoirdupois). The handle is stout, and is 4½ inches long; the blade is 7½ inches long by 1¼ inches wide, the back being ¼ inch thick. The inferior side, holding the back towards you, was first ground flat and afterwards slightly concave from back to edge. A similar knife I find is figured in Mr. Rutherford's "Outlines of Practical Histology."

A list of some of the vegetable objects I have found most interesting may be acceptable to some of the readers of *Science Gossip*.

Leaves.—Drosera rotundifolia, Dionea muscipula, Hepatica triloba, Oxalis stricta, flava, hirsuta, and Bowiei; Deutzia gracilis, cruenta, and Fortunii; Tradescantia zebrina, Eucalyptus globulus, Buchu serratifolia, Cassia acutifolia, Rhus Toxicodendron, Adiantum cuneatum and pedatum, Pteris serrulata, Elae agnus.

Sections of Stems and Midribs.—Ficus elastica, Strelitzia Regina, Althæa rosea, Asclepias cornuta, Rubus villosus, Impatiens Balsaminia, Pteris aquilina and serrulata, Paulownia imperialis.

Sections of Stems.—Aspidium Filix mas, Ricinus communis, Musa sapientium, Euphorbia splendens, Datura stramonium, Dracæna Braziliensis, Ailanthus.—*Science Gossip.*

TRICHINIASIS.

By J. Edward Smith, Ashtabula, O.

About a month ago the residents of Savona, N Y., were greatly alarmed at the appearance of Trichiniasis. Several persons who had been eating of uncooked ham were simultaneously attacked. Some of these cases terminated fatally, while others recovered after suffering greatly.

The medical gentlemen in charge of the patients, on the first appearance of the disease, denied the presence of trichinæ, but subsequently specimens of the ham were examined by competent microscopists, all of whom detected the presence of trichinæ in large numbers.

The following note from one of our townsmen we clip from the Wayland (N. Y.) *Press*, believing the matter to be well worth attention.

I have been much interested in the reports of several cases of trichiniasis which have been discussed in the columns of the "*Press*." Through the kindness of Dr. G. E. Blackham I lately received a small piece of the Savona ham, which I am informed was furnished by Mr. Freeman, and therefore must be authentic.

This little piece of ham was scarcely larger than a small pea, and when it reached me was very hard and dry, nevertheless, I had no difficulty in getting under the microscope, field after field well studded with trichinæ. Of the first six slides prepared and examined, four displayed the worm.

The trichinæ were plainly seen with my one inch objective and two inch eye piece, which give on my stand a power of 40 diameters. Some of the specimens were, however, examined subsequently with a "Spencer" quarter inch, giving an amplification of about 200 diameters. The bit of ham sent me happened to be a portion of voluntary muscle adjacent to a fatty tissue. It was probably owing to this that the one inch glass did not bring out the striation of the muscle. The one fourth inch, however, shows the strirae very plainly, but in scattered patches. If you can procure for me another sample of the ham I shall be glad to get it.

It is indeed curious that any observer, even those using microscopes of ordinary excellence, should have failed in the examination of this thoroughly infected meat, and most likely the cause lay in the imperfect preparation of the specimens used.

We are a pork eating nation—doubtless many of us have suffered from trichiniasis, in one form or another, and it is well that attention should be called—not only to the disease and the remedy—but to the prevention thereof. The correspondent of the Bath *Advocate* quotes a German law regulating the sale of swine's flesh, and he seems to think that legislative enactment would be of some avail with us. My own opinion is that such enactment would be of little benefit. My reasons are—first: We are opposed as a people to sanitary enactments of any kind whatever, and such laws are generally more honored in the breach than in the observation. Second—until the habits of the trichinæ shall become by force of study thoroughly known, and their "habitat" precisely determined, none other than an exhaustive, and therefore impracticable, examination with the microscope would be any sure protection. Prof. Frey, in his work on the microscope, says, "all transversely striated muscles, with the exception of the heart, serve as a location for these small parasites, whose number may not unfrequently become extraordinarily large in consequence of repeated immigrations, nevertheless, the muscles of the jaws and neck and the diaphram are distinguished as favorite localities. The tendinous extremity of the muscles—obvious because there is here a mechanical impediment to further emigration—usually shows the greatest abundance of the dangerous guests."

It has occured to the writer that the electrical or galvanic battery might be employed in the destruction of these little pests. In the case of the slaughtered porcine there would be no impediment to employing a current strong enough to ensure death to the trichinæ. Judiciously applied it might afford relief to afflicted humanity. The idea is, I belive, novel, and perhaps practicable.

Book Notices.

A PRACTICAL TREATISE ON DISEASES OF THE EYE. By ROBT. BRUDENELL CARTER, F. R. C. S., Ophthalmic Surgeon to St. George's Hospital, etc With 124 Illustrations. Edited with additions and test types by JOHN GREEN, M. D. Philadelphia: HENRY C. LEA. Cincinnati: R. CLARKE & Co. 8vo. pp. 505. 1877.

This will be found a very excellent work by physicians and students. It presents, in a concise and readable form, a general view of the present state of knowledge with regard to the nature and treatment of the more important diseases of the eye. As every general practitioner of medicine is consulted more or less in regard to diseases of the eye, and is oftentimes under the necessity of prescribing for the same, he should be in the possession of one or more works on ophthalmic disorders on a line with the knowledge of the day to which he can refer for information. We know of no work better adopted for the purpose than the one before us.

The book embodies the substance of the author's lectures at St. George's Hospital, and contains but slight reference to modes of practice of which he is unable to speak from experience.

STATISTICS, MEDICAL AND ANTHROPOLOGICAL, OF THE PROVOST-MARSHAL-GENERAL'S BUREAU, Derived from the records of the Examination for Military Service in the Armies of the United States during the late war of the Rebellion, of over a Million Recruits, Drafted Men, Substitutes and Enrolled Men. Compiled under Direction of the Secretary of War by J. H. BAXTER, A. M., M. D., Colonel and Chief Medical Purveyor United States Army; late Chief Medical Officer of the Provost-Marshal-General's Bureau. In two volumes. Government Printing Office, Washington.

This work forms two ponderous quarto volumes, made up of tables of statistics, maps, remarks, surgeons' reports, etc. It contains a large amount of information in regard to the recruiting service, and will be of the greatest value in time to come as a work of reference. In filling up the armies during the late war, the examinations required by law of all recruits, volunteers, drafted men, etc., brought out a vast amount of information in regard to diseases, their prevalence, the localities where most abundant of particular ones, etc., etc. These two large volumes are a digest of the knowledge thus brought to light, and which otherwise would have been lost.

Much credit is undoubtedly due to the compiler, Dr. J. H. Baxter. The labor he has performed has simply been immense, as any one can readily perceive by only a glance through the work. Our space is too limited to give any thing like an appropriate sketch of it.

Editorial.

DR. R. R MCILVAIN.—The numerous friends of this gentleman in Cincinnati, where he formerly for a long time resided, were much pleased in receiving a visit from him. He was looking unusually well and was in the best of spirits. He did a good work in the profession while living here. We hope his labors will be attended with the same favorable results in the profession in New York. May his shadow never disappear or diminish.

HALF-YEARLY COMPENDIUM OF MEDICAL SCIENCE.—We are in receipt of the July number of this very excellent half-yearly, edited and published by Dr. D. G. Brinton, of Philadelphia. The present number of the *Compendium* contains the usual full and varied selection from American, English, and Continental authors. Terms: $3 a year in advance.

CHANGES OF ADDRESS.—Dr. G. A. Gustine has changed his address to Corinth, N. Y. Dr. Thos Teague should be addressed at Lynn, Ind. Dr. T. L. Scott has located at Morgantown, Ind. Dr. R. B. Elderdice has removed from Zion, Md., to McKnightstown, Pa. Dr. James W. May is at Washington, C. H., O. Dr. J. H. Harshbarger has located at Tileton, O. Dr. C. M. Wilson is at Millbrook, Pa. Dr. R. R. McIlvain, formerly of Cincinnati, is addressed at 60 W. Thirty-Eighth St. New York City. Dr. D. J. Denny has located at Harrisburg, Ky. Dr. J. E. Davison, Negley, Pa. Dr. Thos. Macfarlane, Yates City, Ill.

WM. R. WARNER & CO., have removed to their new five story iron building, 1228 Market Street, Philadelphia, where they have fitted up the most complete and conveniently arranged store and laboratory anywhere to be found. Dummy waiters, speaking tubes, and steam elevators communicate with all parts of the building. The application of steam to their machinery drives 180 feet of shafting, and runs eighteen sets of belting. The store is fitted up in the Eastlack style with nickel pulls, and the shelves are supplied with *Warner's patent and newly designed drug-shop bottles*, and all of such as contain poison are locked to the shelf so as to avoid error. The offices are decorated with embossed glass portrait of Jenner, Sir Humphrey Davy, and fourteen others, executed in artistic style unequalled. We were pleased to notice a perfect likeness of Sir William Harvey which adorns the stained glass in the centre rear window.

This house has zealously labored to achieve a recognition from the medical fraternity for the purity and excellence of the product of their laboratory, and we believe they are unsurpassed in these important qualities.

FEMALE REPRESENTATION IN THE AMERICAN MEDICAL ASSOCIATION.—On the reading of the name of Sarah Hackett Stevens, representing the Illinois State Society, Dr. Brodie, of Detroit, moved that that and all such names be referred to the Judicial Council. A motion that this resolution be laid upon the table was carried by a large vote, amid considerable applause.

The president asked if the vote was intended to recognize her right to a seat, when loud cries of "Yes," and cheers, emphatically answered the question.

Dr. Toner, of Washington, moved that the roll as read be confirmed, with the exception of the objections taken.

EXCLUSIVE DOGMAS.—The Michigan State Medical Society, at its meeting held in Ann Arbor, May 10–12th last, passed resolutions, by a large majority, condemning the existing situation o the Medical Department of the University of Michigan, because the faculty of that department includes two homœopathic professors. One of the resolution was as follows:

Resolved, That section 4 of the constitution of this State Society be amended, so as to read as follows, viz: "Section 4. The resident members should be elected by vote of a majority present at any regular meeting, their eligibility having previously been reported upon by the Committee on admission. *Provided*, That no person shall be admitted to membership who practices or professes to practice in accordance with any so called "party" or sectarian school of medicine, or who has recently graduated from a medical school, whose professors teach or assist in teaching those who propose to graduate in or practice irregular medicine."

The Pennsylvania State Medical Society, at its meeting in Philadelphia, June 2d, as was seen in its report in this Journal, unanimously passed the following:—

Whereas, The Dauphin County Medical Society has endorsed the action of the surgeons and physicians in resigning their positions, in 1873, on the staff of Harrisburg Hospital, on account of the introduction of homœopathic practice.

Resolved, That this society do commend and approve of that action.

Resolved, That while approving that action, we cannot too fully endorse the high-toned professional spirit which prompted the medical staff to decline to have anything to do with an institution that recognizes any system of practice based upon exclusive dogma.

The public generally, and the profession in some of its branches, will probably characterize these acts as indicating "jealousy." They suppose that the motive which prompts scientific physicians to discountenance homœopathy, is that they are afraid of it as a business competitor. To this opinion we do not, at present, address ourselves. More charitable readers may attribute the opposition to a disbelief of the distinctive homœopathic principle of "the law of the similars," that like cures like. Now both these views are utterly wide of the mark.

The law of the similars, regarded as a generalization from observed facts, will be received with neither more nor less opposition than any other asserted induction; it will be examined by the same tests and under the same canons; if it be shown to be correct by these, it will be received with just as much readiness by the whole body of intelligent scientists, as any other verifiable generalization will be.

The vital, the *only* motive which inspires the opposition above recorded is, that to state as a dogma, to be received with unquestioning faith, that which, if true, could only be a generalization from a limited number of facts, is so contrary to the methods of science that it must necessarily paralyze investigation and check the advance of discovery.

Rational doubt is the frame of mind in which *every* scientific generalization must be received. No matter what authority there is for such a statement, it must ever be regarded as fallible and open to correction. In no branch of science is a fixed principle, or any kind of dogma, to be admitted. We could give the logical necessity of this were it worth while; but in this connection it is not. Suffice it to say, it is clearly acknowledged by all eminent thinkers. One instance may be enough. Professor Faraday stated, once for all, the necessary position of the man of science, in these strong words:—

"In knowledge, that man only is to be contemned and despised who is not in a state of transition;" and again, "Nothing is more difficult and requires more caution than philosophical deduction, nor is there anything more adverse to its accuracy than fixity of opinion."

It is precisely because scientific physicians are bound by every tie of duty to aim at accurate and honest deduction, that they abhor and oppose fixed opinions, exclusive dogmas. Were they to yield on this point, the progress of knowledge would be stayed, and the art of medicine would become as it was among the Galenists of the middle ages, or as it is now among the Chinese. To swear in the words of any master, or to accept as a law of nature that which at the utmost could be but an induction of experience, is to fall back toward mediæval darkness, and to manifest an entire ignorance of the logic of scientific investigation.

We have been informed that all the regular colleges of New York City and Brooklyn (except the Woman's Medical College) have agreed to recognize the tickets and diplomas of the Ann Arbor school, in spite of the action of the State Society.

As to whether the action of that school was fairly open to the censure contained in the resolutions of the State Society, is a question on which the Judicial Council of the American Medical Association will report next year, after an impartial examination of the evidence. We offer no opinion upon it. But from the pamphlets and papers we have seen relating to it, we fear that the real issue is in danger of being lost sight of in a cloud of personal and technical minor questions. This issue is, Does the present constitution of the Ann Arbor Faculty tend to the real or implied recognition by that school, as such, of the homœopathic dogma? If it does, in the least degree, and by any fair construction, then the action of the State Society should be upheld; but if not, the mass of the profession will feel no immediate interest in sustaining the resolution quoted.—*Med. and Surg. Reporter.*

THE
CINCINNATI MEDICAL NEWS.

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Original Contributions.

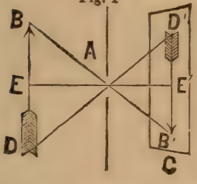
A LECTURE ON LENSES.

By JOSEPH ZENTMAYER.

Delivered before the Franklin Institute, Philadelphia.

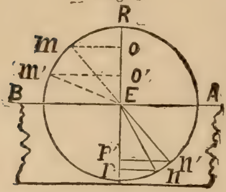
Light is propagated in a straight line. We cannot see around a corner. If a ray of direct sunlight passes through a small hole of any given shape into a darkened chamber, and we hold a screen near behind the aperture, we observe a bright image of the shape of the hole. If we increase the distance of the screen and the aperture, the image of the hole disappears in the penumbra, and the round image of the sun takes its place; and, if the hole is small enough, you will see not only the image of the sun, but the image of all the external objects will appear likewise. This is one of the most interesting experiments, and its explanation is easy. Each point of the object *B D* (Fig. 1.) radiates light in every direction, light of the same color as it appears to our eye. From the point *B*, no light can reach the screen *C*, except through the small aperture *A* at *B′*; but if the aperture is infinitely small, no other point of the object can send its rays to *B′*. The same is true for every other point, for *E* or *D* for instance; these can only send rays to their respective points *D′* and *E′*, and so on with the rest, and an inverted image, with all the natural colors of the object is produced on the screen. If we now enlarge the hole, different points of the object would reach the same place upon the screen; the images of these points would overlap each other, and the image of the object would be indistinct. If the aperture is sufficiently enlarged, the image disappears, and the screen is illuminated homogeneously, taking only a tint of the most prominent colors of the objects. Therefore, the smaller the hole is, the sharper but fainter is the image. The size of the image depends upon the distance of the object from the hole, and also upon the distance of the screen from the hole. This primitive camera obscura is known by the name of pin-hole camera.

Fig. 1



Light, we said, is propagated in a straight line; but this is only true when it continues in a medium of the same density, or if it enters a medium perpendicular or normal. But if a ray passes from one medium into another of different density obliquely, its direction is changed; it is refracted. This property of light was known to the ancients about eighteen hundred years ago, but the discovery of the law of refraction was left to Willebrod Snell, professor of the University of Leyden, 1621. I will briefly state this very important discovery, which elevated optics to a positive science. If a ray of light, R (Fig. 2), falls perpendicular upon a plane surface of a piece of glass, $A\ B$, it enters the glass without changing its course, in a straight line, $R\ D$, it only changes its velocity. But if a ray, m, strikes the surface at E, obliquely, it is refracted to n. A ray, m', is refracted to n'. Now if we erect perpendiculars from the points m and n, and also from the points m' and n', to the normal $R\ D$, and divide the length $o\ m$ by $n\ r$ and also divide $o'\ m'$ by $n'\ r'$, we will have in both cases the same quotient, or, as it is generally expressed: The sine of the angle of incidence divided by the sine of the angle of refraction is a constant, whatever the angle of incidence may be. This constant quotient is called the index of refraction. Different media have different indices of refraction; thus a diamond has a higher index of refraction than flint glass, and flint glass a higher one than crown glass.

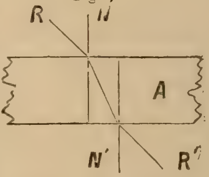
Fig. 2



Another important law of refraction may be mentioned, it is this: The incident and refracted ray and the normal are situated in the same plane.

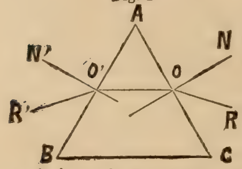
If a ray of light falls on a parallel piece of glass, A, (Fig. 3), perpendicularly, it will pass through it in a right line, because it is coincident with the normal. But if a ray, R, strikes the glass obliquely, it will be refracted toward the normal, N, and away from it when leaving it. As the normals n and n' are parallel, so must the incident and refracted ray be after leaving the glass.

Fig 3



Now let us see another case, where the two surfaces are not parallel, but form an angle with each other. Such a medium is called a prism.

Fig. 4

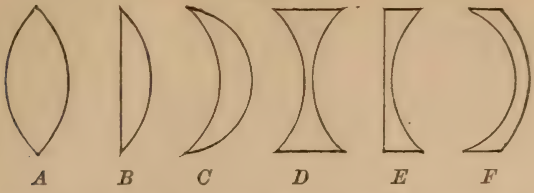


$R\ o$ (Fig. 4) is an incident ray; the ray is refracted towards the normal N, along $o\ o'$, and by leaving the prism it is again refracted, but this time from its normal N, as it passes from a denser to a rarer medium. Therefore incident rays on a face of a prism are always refracted towards the base.

We are now tolerably well prepared to see what a lens is.

A lens is a transparent medium, of which the two surfaces are either both curved, or the one is plane and the other curved. If the curves are spherical, the lens is called a spherical lens; if the curve is parabolic it is a parabolic lens, etc. Lenses are divided into two classes, converging and diverging lenses. The converging lenses, which are thicker in the centre than at the margin, are: The double convex with both surfaces convex; the plano convex with one surface plane and the other convex; and the convex concave (meniscus) with one convex and one concave surface, but the convex of the shortest radius. This class of lenses, which may all be used as magnifying or burning glasses, are called convex or positive glasses, and these only are, strictly speaking, lenses. The diverging lenses, which are thinner in the centre than at their margin, are: The double concave, with both surfaces concave; the plano concave, with one surface plane, the other concave; and the concave convex, with a concave and a convex surface, the concave having the shorter radius. These diverging lenses are called negative glasses. Fig. 5 exhibits the several lenses in the order we have named them; of which *A B C* are positive, and *D E F* negative glasses.

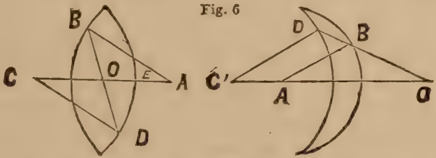
Fig. 5.



The general properties of lenses, which are of importance, are. first, the principal axis; second, the optical centre; third, the principal and conjugated foci; and fourth, the nodal points or conjugated centres. A straight line, drawn through the centres of curvature of the spherical surfaces of a lens, is the principal axis of the lens; if the one surface is plane, the axis passes through the centre of curvature of the spherical side, and is perpendicular to the plane surface. In all lenses the principal axis must go through the middle of the lens, that is, in the concave through the thinnest, and in the convex through the thickest part; otherwise, we have a prism with spherical surfaces, and not a lens.

Every lens possesses a point, situated in its principal axis, which is of great importance. Rays of light, passing through that point, will undergo equal opposite refraction, so that it will leave the lens parallel with the direction in which it entered. If we consider the lens without thickness, we simply say: Rays passing through the optical centre of a lens undergo no refraction. The optical centre can readily be found by drawing two radii, *A B* and *C D* (Fig. 6), from the centres of curvature *A* and *C′* of its surface, parallel to each other, but oblique to the axis *A C*, then connect the two extremes *B* and *D*, and the line *B D* or its prolongation will cut the principal axis in *O*, the optical centre. If the lens is a double convex one of equal radii, the optical centre is the centre of the lens, or its centre of gravity. Fig. 6 is such a lens. Now suppose we change one curve into a shallower one, of longer radius, it is evident that the optical centre is shifted towards the predominant, more curved side, and if we continue to make that side shallower, it will gradually move towards *E*, until the surface is converted into a plane, in which case the optical centre is coincident with the point where the axis cuts the curved surface *E*. This, we will see afterwards, is an important point. But let us go on in the same way, still reducing that suface by making it a concave or negative one. It is clear that the optical centre still marches on, moving out of the lens; and if we go on so far as to make the negative curve equal to the positive one, then the optical centre would be in infinity; and if we disregard the thickness, we have no lens, but a non-optical glass like a watch glass. All straight lines, passing through the optical centre of a lens are called sec-

Fig. 6



ondary axes. The next and most important of the general properties of a lens is their principal focus and the conjugated foci. If we hold a convex lens towards the sun, and a sheet of paper at a certain distance behind it, we observe a bright little circle, in which the sunlight, falling upon the lens, is collected. The point where the circle is smallest, and, therefore, most intensely illuminated, is called the principal focus; that is, the focus for parallel rays.

If we have to calculate the area of a circle, we are bound to look at the circle as a polygon of an infinite number of sides, and we will do well to take the lens as an infinite number of prisms, more so as the infinitely small portion of the lens, struck by the ray, may be taken for a tangent plane. Thus a converging lens may be considered as prisms united at their bases, and a diverging lens of prisms united at their apices. As we already know that prisms refract parallel rays towards the base, it is easily seen why converging lenses refract the rays *R R* (Fig. 7) to *f*, and that diverging lenses diverge the rays *R R* to *f'*.

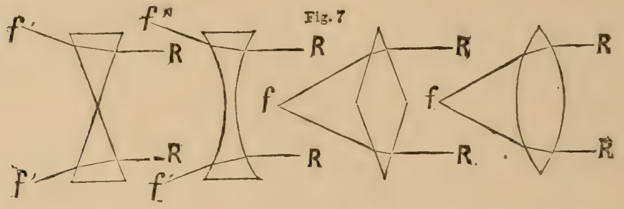


Fig. 7

The distance of the focus from the lens depends, 1st, upon the curvature; 2d, upon the refracting power of the material; and 3d, upon the thickness of the lens.

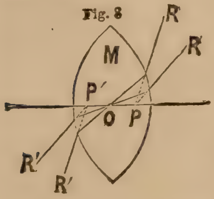
Not to make the matter unnecessarily complicated, we will take the supposition that our lenses have an extremely small, or no thickness at all. For common glass of an index of refraction of 1.5, calculation shows that a plano-convex lens has a focal length of the diameter of the sphere of which the lens is a part. A double convex lens of equal radii has its focus half that distance, or equal to the radius of the surfaces. If the double convex lens of equal radii, say of 10 inches, is made of the following substances, the thickness neglected, the foci would be—

For common glass,	index of ref.	1.5	= focus	10	inches.
" flint	" " "	1.6	= "	8.33	"
" diamond,	" "	2.439	= "	3.48	"

We see that the diamond lens of the same radius has a focal length of little over $\frac{1}{3}$ of the crown glass lens.

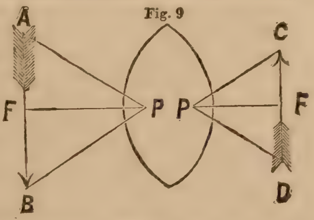
We have now seen that luminous rays from a point, infinitely distant, are collected to a single point in the axis, the principal focus. But let us suppose we move the luminous point towards the lens, to make the rays perceptibly converging; then, the lens, which was strong enough to bring parallel rays to the point, where the principal focus is situated, is not strong enough to bring these diverging rays to the same point, but they will cross the axis at a point farther removed from the lens; and, as the radiating luminous point is moved nearer to the lens, the farther off from the lens they will cross the axis; by moving still on, we come to a point where the radiating point and the point where the rays cross the axis on the opposite side are equally distant from the lens. In this case, the radiating point and the rays where they cross the axis are nearly four times the distance of the principal focus apart. For ordinary purposes this affords a ready means to determine the principal focus of a lens. But let us move on still nearer to the lens, and the focus on the other side will continue to move farther away, until we reach the principal focus this side; then the rays will emerge parallel on the other side. By over-stepping that point, the rays will emerge diverging. These variable distances of the luminous point and the focus on the other side are called the conjugated foci. There remains to be mentioned another important general property of lenses, the nodal points, or, as they are sometimes called, the centres of admission and emission.

Fig. 8



M is a double convex lens of equal radii, *o* is its optical centre. Any ray passing through the optical centre, as *RR*, emerges on the other side parallel to its first direction, *R′ R′*, as explained before. If we now prolong *R* and *R* in their first direction, they will meet at a point *P*, the one nodal point, or the centre of admission; and if the emerging rays are also prolonged, they will converge to a point *P′*, the other nodal point, or the centre of emission. We recollect that in the pin-hole camera the size of the image, compared with that of the object, is exactly in the same proportion as the distance of the screen to the hole is to the distance of the object from the hole. These distances represent the two conjugated foci, as there is no deviation of the rays from a straight line, and the two triangles, which are to be compared, meet with their apices. But if we have a bi-convex lens (Fig. 9) and *A B* an object, *C D* its image, it is clear that the conjugated foci are to be measured from the nodal points *P* and *P*, and the two conjugated foci are *F P* and *F P*, showing how erroneous it is to measure the foci either from the surface of the lens, or from the optical centre. In a meniscus, the one nodal point is situated outside of the lens, and the other one inside of the lens. But in a plano-convex lens the optical centre, as well as the nodal point, is situated where the principal axis crosses the curved side. The plano-convex lens is therefore the the only lens of which the focal length can be measured directly. If the plane side is placed towards a very distant object, the distance of the curved side to the image is the principal focus.

Fig. 9

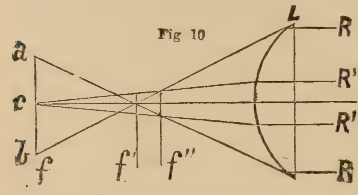


It is often necessary to know the focal length of a lens or a combination of lenses, especially in photography; but if no plano-convex lens of known focal length is at hand for the purpose of comparing the size of the image, the following way may be adopted: first, focus the lens for a very distant object on a screen, and mark the position of the screen. Do not move the lens but place a bright object, about twice the focus of the lens, in front of it as near as you can suppose. Now move the screen about the same distance from the lens as the object was placed, and focus thereupon. If you find the object and image not of exactly the same size, move object and screen accordingly, and focus sharp, until the object and image are precisely of the same size; mark the position of the screen again, and the distance of the first and second mark is the focal length of the lens, or the equivalent lens of a combination of lenses.

We are now acquainted with the most important properties of a lens, and it remains only to be said, that all combinations of lenses have precisely the same general properties as single lenses.

We come now to a somwhat more complicated and difficult part of the subject—the aberrations of lenses, and the modes of their correction. So far we have supposed the lens as very small in relation to its focal length, and that, with such a lens, all rays coming from one point are refracted by the lens in one point again; but in practical optics such is not the case, as lenses of very large aperture are often required in modern optical instruments, and the rays coming from one point are no longer collected in one point, and this optical defect occasions the different aberrations. For over a century the correction of these aberrations employed our most eminent mathematicians, as Euler, Fraunhofer, Herschel, Fresnel, Littrow, Gauss, Airy, Petzval, and others.

Fig 10

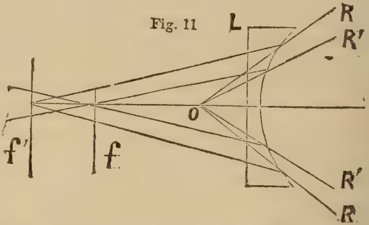


The most important of these aberrations are: spherical aberration, chromatic aberration, curvature of field, distortion, and astigmation.

The marginal parallel rays *R R* (Fig. 10), passing through a convex lens, *L*, cross the axis at *f'*, nearer to the lens, than the more central ones *R' R'*, which cross at *f*. This is a result of the spherical surface of the lens, and is called spherical aberration.

If we present a convex short focus lens to solar rays and produce a sharp image of the sun on a piece of white paper, we will find that the image at *f*, which is the one made by the central rays (and therefore is the sharpest), is surrounded by a halo, *a b*, which is what we call the lateral spherical aberration. This halo is, as you see, produced by the shorter marginal rays, *R R*, after crossing the axis, diverging, and is also called the circle of aberration. *f' f*, the distance of the difference of the central and marginal rays, constitutes the longitudinal aberration. The least spherical aberration is where the two cones intersect each other between *f'* and *f*. This aberration is called positive.

Fig. 11



If converging rays *R R* and *R' R'* (Fig. 11), which we suppose would be collected in the point *o*, fall on a concave lens, the marginal rays *R R* are refracted stronger than the more central ones *R' R'*, consequently *R R* will cross the axis farther from the lens, at *f'*, than the more central ones, *R' R'*, which cross the axis at *f*. In this case the spherical aberration is of the opposite character, and is called negative aberration. It is evident from the foregoing that spherical aberration varies with the aperture of the lens, and the material of which the lens is made. Therefore, the larger a lens is in proportion to its focal length, the greater is its spherical aberration;—a lens of an aperture of, say 1 50th of its focal length has no preceptible spherical aberration. The longitudinal spherical aberration increases as the square of the diameter of its aperture, and inversely, as its focal length, while the lateral aberration increases as the cube of its aperture, and, inversely, as the square of its focal length.

Thus, if we have two lenses of the same curvature, made of the same materal, but the one of twice the aperture of the other, the longitudinal aberration of the larger one is four times as great, and the lateral or circle of aberration is eight times as great as that of the smaller one.

If two lenses have the same aperture, but the focal length of the one is twice as long as that of the other, the longer one has only one-half the longitudinal, and one-fourth the lateral aberration. As a lens made of a denser medium, say of heavy flint glass or diamond, requires, for the same focal length, a longer radius of curvature than one made of crown glass, it follows that its sperical aberration is less.

The single lens of ordinary glass, having an index of refraction of 1.5, has the form of least sperical aberration when it is a crossed or convex lens with the surfaces of different radii, the proportions of the radii depending on the index of refraction of the material of which the lens is made. For ordinary glass, index 1.5, the radii are as 1 to 6, the shortest curve towards parallel rays. The best form for a lens made of flint glass, index 1.6, is the plano-convex, and for diamond, is a meniscus, of which the convex radius is to the concave as 2 to 5, for radii of curvature.

We see that in lenses of wide apertures the spherical aberration may be considerable enough to interfere with the sharpness of the image, especially if, as in a telescope and microscope, the image with all its errors is magnified by an eye-piece. Let us now see what means we have to reduce, correct, or destroy the spherical aberration. The most simple way is by the use of a diaphragm. A diaphragm is a non-transparent plate, commonly made of metal, perforated in centre. *A B* (Fig. 12) is such a diaphragm; *c d*, the aperture of it. If this diaphragm is placed in contact with the lens, it is nearly equal to reducing the lens to the size of the aperture of the diaphragm, and, as we have seen before, the spherical aberration is considerably reduced, but the light also. If the loss of light is of little consequence, this mode of reducing spherical aberration may be adopted with advantage. Another way of reducing the spherical aberration is by adopting for a given aperture and focal length two or more lenses of the same aperture, and the same equivalent focus of the single lens. We have seen before that two lenses of the same aperture, but their focal length as 1 to 2 to each other, the longer one has only one-fourth of the spherical aberration of the shorter one. Lens *M* (Fig. 13) has its focus at *f*. The lenses *L* and *N* are of the same aperture as *M*, but each has twice the focal length of the lens *M*; therefore, each has only one-fourth the spherical aberration of *M*, but *L* and *N* together have the same focal length as *M*, and as their apertures are alike, the combination *L N* has only one-half the lateral spherical aberration of the lens *M*. But by this mode of correcting, it is not possible to destroy the spherical aberration completely, although it is stated in some works on optics, that a combination of two convergent lenses was calculated by Sir John Herschel, and said to be free of spherical aberration. This, however, is a mistake, which Herschel himself has rectified in his memoirs.

Fig. 12

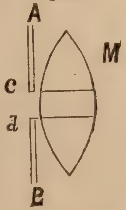
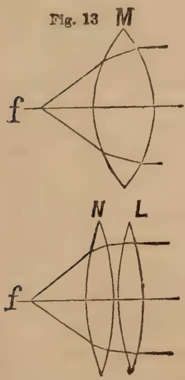
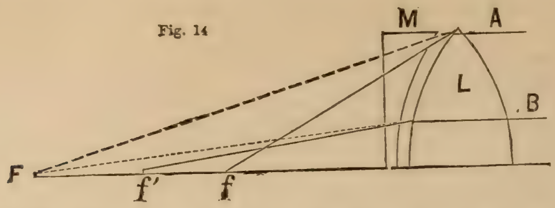


Fig. 13



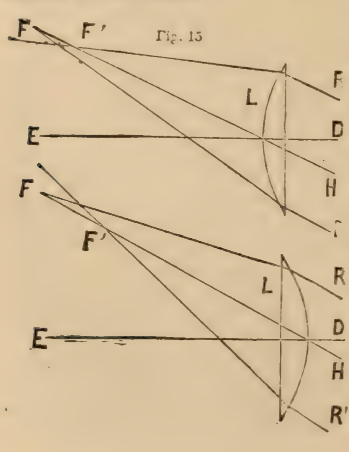
We now come to the most important method of correcting spherical aberration, that is, by a second lens of opposite character. Suppose we want to correct the spherical aberration

Fig. 14



of the positive lens, *L*, (Fig. 14) along its axis. *f f'* is the longitudinal spherical aberration of the rays *A B*, parallel to the axis *A*, at the margin of the lens, and *B* near the centre of the lens *L*. If we combine this lens with a convergent negative lens, *M*, it is not difficult to see, by what we learned before, that the lens *M* has very little power to change the direction of ray *B f* and bring it, say to *F*, but it will greatly change the course of *A f*, so as to bring it also to *F*, since the prismatic form is greater at the margin than at the centre. Of course, the form of the lens must be suited to the material of which it is made; for our present purpose, both of the lenses may be made of the same glass, but it is much better if the lens *M* is made of a denser glass, as we soon shall see, that the same lens may be used to correct the chromatic aberration also. By this method the spherical aberration can not only be corrected, but the marginal rays can be made to cross the axis farther from the lens than the central ones; in this case the lens is called over-corrected, while if not enough corrected, it is called under-corrected. So far we have considered the aberration of rays parallel with the axis. But magic lanterns, photographic and microscopic lenses, include angles from 40° to 175°, and the foregoing is only applicable to a narrow angle near the centre of the lens. If a lens, corrected parallel to its axis for spherical aberration, is struck obliquely by parallel rays, the longitudinal aberration is different for two diameters, and is greatest in the plane laid through the axis of the lens and the radiating point; therefore, the circle of aberration becomes the more elongated, as the more obliquely and marginally the light strikes the lens, until it terminates in a point at their extreme margin, which is known as the coma.

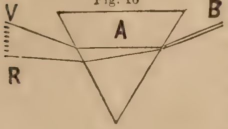
Fig. 15



L (Fig. 15) is a plano-convex lens *H F*, an axis through the optical centre, making a considerable angle with the axis *D E*. *R* and *R'* are parallel marginal rays. The ray *R* will cut the axis at *F'*, and *R'* farther off at *F*, and therefore the image of a luminous point is no more a point, but appears elongated, and in the extreme has the shape of a coma, which in this case is directed downwards. If we reverse the lens, as in the next figure, so that the incident rays fall on the convex side, the coma is directed outwards. We see, we have here, by reversing the lens, opposite comas; and such lenses of opposite character properly combined, at the right distance, and furthermore, by the use of a diaphragm at the proper place, the spherical aberration for oblique rays can be reduced to a small amount.

So far we have considered a ray of light, refracted by a transparent medium, to be still a single ray. Such would be the case were the white ray of light of a single homogeneous color; but what we call white light is composed of different colored rays, which by passing through a refracting medium, are refracted in different degrees. This is the scource of another aberration of even more importance than the spherical aberration—the chromatic aberration. By passing a beam of white light, *B*, (Fig. 16) through a prism, it is not only refracted, but decomposed into seven colors, red, orange, yellow, green, blue, indigo, and violet. These different colored rays are differently refracted by the prism. The violet ray, as the most refrangible one, is refracted towards *V*, and the red one, as the least refrangible, is refracted towards *R*, and other colored rays fill out the space between *V* and *R* in the order of their refrangibility. This is known as dispersion. The dispersion of refracting medias is measured by the length of the spectrum which they produce. Flint glass has more dispersive power than crown glass, because the spectrum which it produces is longer than that of crown glass. The dispersion of a medium is indicated by the difference of refraction between the index of refraction of the red and the violet. Let us now see what effect the dispersion has on images produced by single lenses.

Fig. 16



White light *a* and *b* is falling on a double convex lens (Fig 17). The ray *a* is decomposed into the different colored rays as soon as it enters the lens, and the red ray, as the least refracted, will cross the axis *p p* in *r*, while the violet ray crosses the axis in *v*. Between the red and violet, the other colored rays cross the axis. The same is with the ray *b*, and if we do not consider the spherical aberration of the rays between *a* and *b*, all the red rays will have their focus at *r*, and all the violet ones at *v*. Between *r* and *v*, the foci of all the other colored rays are situated. The space between *r* and *v* is called the longitudinal, chromatic aberration. The length of the aberration changes with the dispersive power of the media out of which the lens is made; it is, for instance, twice as great if the lens is made of flint glass as if the lens were made of crown glass. The influence of the chromatic aberration on the image of a lens is shown in Fig. 18. The white light from the object *a b*, refracted and dispersed by the lens *A*, does not form a colorless image at *f f'*, but the red rays form one at *R* and *R'*, and the violet at *V V'*. But between these, an endless number of colored images of rays of different refrangibility are produced. The red image is the largest. If we place a screen at *R R'* we do not get simply a red image, as all the other dispersed images are formed on the screen; and as the mixing of all the different colors of the solar light make white light again, so the mixed images, that is, the central part is colorless, and only the magin is blue, because it is surrounded by the diffusion image of the blue diverging rays.

Fig. 17

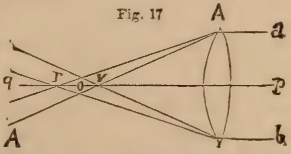
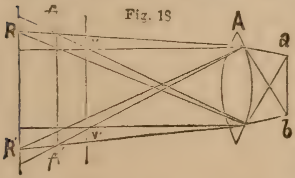


Fig. 18



If the screen is moved to *V V'*, then the image is surrounded by a red margin; if it is moved to ff', the colored margin disappears, but the image, composed of the different dispersed images, appears undefined and not clear. This effect is more increased because each colored image has its spherical aberration also. Chromatic aberration alone would place the different colored images in regular succession behind each other; but spherical aberration mixes these images of different colors, and only the two outer ones, red and violet, remain. From the foregoing it is clear that chromatic aberration must necessarily interfere with the definition of a lens, and that it is desirable to find a way to correct this evil. From the moment when Newton unraveled the nature of solar light, proving that light is composed of rays of different refrangibility, our greatest philosophers and opticians have spent their time and skill in the attempt to produce lenses without chromatic aberration, or at least to reduce it to a minimum. Sir Isaac Newton was of the opinion that refraction and dispersion of different refracting substances are always in the same ratio to each other, and concluded that it was hopeless to produce refraction without color, by combining convex and concave glasses. But Leonhard Euler, the great mathematician, on the other hand, reasoned in another way, and this is a curious instance of how a correct conclusion was drawn from false premises. He assumed that the human eye is achromatic, and consequently a lens could be made achromatic too, and Newton must be in error. He constructed theoretical rules for making achromatic lenses, and Dollond, the optician, succeeded in carrying them out. But Dollond, by comparing the eye with his lenses, observed that the eye cannot be achromatic, and Fraunhofer afterwards measured the chromatic aberration of the human eye, and found that an eye that is able to bring parallel rays of red light to focus on the retina, can only bring violet rays to a focus coming from a distance of two feet.

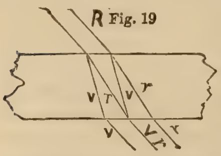
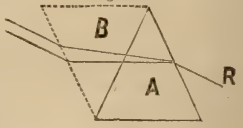


Fig. 19

Now let us see how we get rid of these beautiful colors, which we admire so much in the rainbow and the glittering dewdrop, but which hurt the eye of an optician, in an optical instrument. If a ray of white light, R (Fig. 19), falls obliquely on a parallel plane glass, it is decomposed as soon as it enters the glass; but on the other side all the colored rays which made white light, are, on leaving the glass, parallel to its former direction, and if we think the whole surface of the glass struck by white rays, they all will be dispersed, and come out parallel on the other side; but, if the different colored rays are mixed homogeneously, it makes white light again.

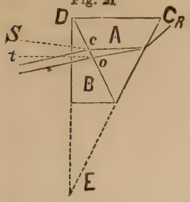
Fig. 20



But if a prism, A (Fig. 20), is struck by an oblique ray, R, the ray is dispersed in the glass and the colored rays leave the prism diverging, and they cannot be properly mixed again in white light, except we can give to the leaving rays their parallelism again. Now, if we combine a prism, B, of the same angle and material, in a reversed position to A, it is evident that we restore the diverging rays again to parallel rays; but, unfortunately, we destroy not only the dispersion, but also the refraction,—we make a thick, parallel glass out of the prism.

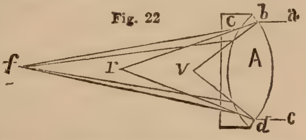
Let us try it in another way. The ray, R (Fig 21), passes into a prism of crown glass, A, and a colored image would be formed at $s\ t$, if the prism B would not interfere. If we now could combine with the prism A, one of a less angle, but made from material like flint glass, of greater dis-

Fig. 21



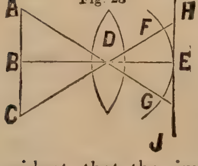
persive power, so as to have the same dispersive power as the larger angle prism *A*—we can restore the diverging into parallel rays, and the light will come out white again, although it went through the compound prism *C D E*. This is perfectly practicable, if we make the prism *B* of flint glass; this having a greater dispersive power than the crown glass, and the rays *c* and *d*, when entering the prism *B*, are some what refracted—the violet more than the red—and their divergency is smaller; and, if the prisms have the right proportions, the red and violet rays come out into the air parallel, and, at the same time, the rays passing from the prism *B* will have a different angular direction than that with which they entered the prism *A*. Thus we have refraction without dispersion.

Fig. 22



Let us adapt this principle to a lens *A* (Fig. 22), made of crown glass. The ray *a* and *c* enter the lens *b* and *d*, and are dispersed; the red would cross the axis at *r* and the violet at *v*. We associate the plano-concave *c*, of flint glass, with the lens *A*. As the negative flint lens is of a denser medium, the violet, as well as the red rays, will be refracted, but the violet more so than the red; and, if form and dispersive power of the two lenses are in the right proportions, the red, as well as the violet, will meet at the point *f*; the image formed there is colorless, or achromatic, or, in other words, it will appear in its natural colors. But even in the best achromatic lenses there is still a small amount of color left, which cannot be destroyed. If we compare the spectrum of a prism of crown glass with one of flint glass of the same angle, we find that the more refrangible blue, indigo and violet, take not only absolutely, but also relatively, more space than one in the spectrum of the crown glass prism. So, if we succeed in uniting the outer rays, red and violet, the intermediate colors cannot unite completely, and this remainder of not corrected colored rays we call the secondary spectrum. Complete achromatism, therefore, cannot be obtained, but we must be content to come as near as possible to the requirements. A selection of crown and flint glass, in which the proportion of length of the spectra of the different rays are nearly related, will bring us very near to our purpose. Fortunately, the colors of the secondary spectrum are feeble, and do not interfere much with the sharpness of the image, and we are well pleased if a lens exhibits only the secondary colors—light purple and greenish,—as it is a proof that the most objectionable effects from chromatism are removed. The association of flint and crown glass serves not only to correct chromatic aberration, but, as we have seen before, if the right form for each of a pair of lenses be selected, it corrects spherical aberration also. Such a lens, corrected for spherical and chromatic aberration, we call a *aplanatic* lens.

Fig. 23



We now come to another aberration of a lens, the curvature of field. The image of a flat object formed by a lens cannot be received on a plane screen; the screen ought to be concave. *A*, *B*, and *C* (Fig. 23), are very distant points, and, therefore, nearly equal distant from the lens *D*, of which the point *B* is situated in the line of the axis of the lens, while the points *A* and *C* are above and below the axis. It is evident that the images of these points are formed at nearly equal distances from the optical centre, not far from the principal focus. The field *F E G* is therefore curved, and cannot be received on the screen *H I* equally sharp. The curvature of field is generally attributed to spherical aberration; sometimes it is even thought to be spherical aberration itself, but it has nothing to do with it. If lenses could be made with parabolic curves free of spherical aberration, the curvature of field would be about the same.

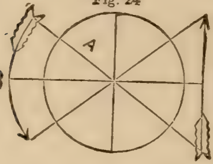


Fig. 24

Suppose we have a globular lens *A* (Fig. 24), with a diaphragm in the middle, so small as to reduce spherical aberration to almost nothing. Now we know that the focus of a sphere of crown glass is situated $\frac{1}{4}$ of the diameter behind the globe, at *B*, and as all the pencils are normal, they all will form their image $\frac{1}{4}$ of the diameter of the globe behind it; that is, the image lies in a curve, concentric with the lens, although the spherical aberration is not perceptible. To understand the correction of the curvature of field, we must make clear what is meant by depth of focus, and what the effect of a diaphragm is. Depth of focus is the property of a lens to give a tolerably clear image of objects, not in one plane. Figs. 25 and 26 will make it plain.

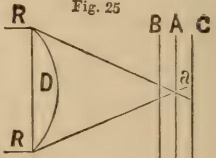


Fig. 25

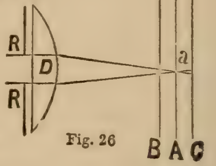


Fig. 26

In Fig. 25, we make use of the whole aperture of a lens *D*; *R R* are parallel rays, striking the margin of the lens. The image is formed at a screen *A*; if the screen is moved to *B* or *C*, the image of the point *a* spreads out, because the angle of the crossing rays is large. When the same lens, *D* (Fig. 26), is provided with a diaphragm, so as to reduce the aperture considerably, the focus of the rays *R R* is still at *a*. If we now move the screen the same distance as before, to *C* or *D*, we find that the image of the point *a* is considerably reduced. If we now look at Fig. 23, we see that only *E* can be sharp on the screen, and if the screen be moved towards the lens until the points *F* and *G* are sharply defined upon it, then the point *E* will lie beyond the screen and become indistinct; but if we provide the lens with a small central diaphragm, we can find a place for the screen, where all three points can be brought to it, without the images being sensibly diminished in sharpness.

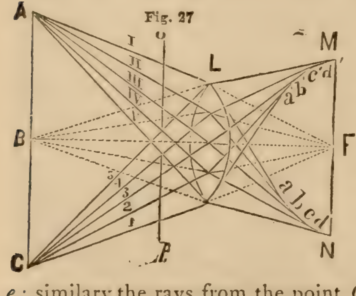
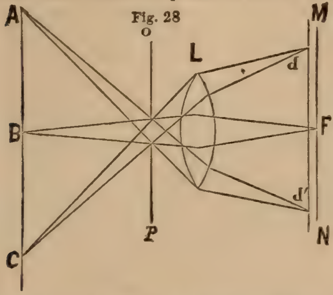


Fig. 27

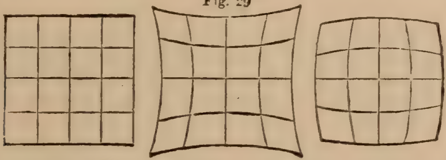
Now let us see what takes place if we move the diaphragm to a proper distance from the lens. *A*, *B*, *C* (Fig. 27), are distant points, *L* a converging lens. Let us trace the course of the rays, commencing from the points, *A B C*. The rays from the points *B*, situated in the axis, and the image of the point *B* will be formed at *F*, the principal focus. But it is different with the rays coming from *A* and *C*. The rays proceeding from the point *A*—A_{i}, A_{ii}, A_{iii}, A_{iv}, A_{v}, are refracted to *a*, *b*, *c*, *d*, *e*; similary the rays from the point *C* are refracted to *a'*, *b'*, *c'*, *d'*, *e'*; occasioning, as we have seen before, spherical aberration. If we place a screen at the principal focus *F* it will not receive a distinct image, even if we have a concave screen; as will be observed, all the rays outside of the axis arrive at different distances behind the lens. You notice that none but the rays A_{iv} and A_{v}, and C_4 and C_5 have their focus near the plane of the screen *M N*. Now if we find a place for a diaphragm, so that only these rays pass the lens, and the depth of the lens is as great as *d M*, we may expect a pretty sharp image on a plane screen. By looking over the finger, we see that such a plane is in *O P* (Figs. 27 and 28). A diaphragm in this place, and of the proper size, will allow only the most favorable rays to pass, and a tolerably flat and sharp image is obtained. The smaller the diaphragm the sharper and flatter the image. But as we mentioned before, small diaphragms have the disadvantage that the light is cut off to such an extent; and for most purposes the lens becomes useless. But suppose we would employ a negative lens, under the same conditions, we would have no real image, but a virtual one, the curvature of the field would be reversed, and the marginal rays have a longer focus than the central ones. Therefore, it is possible to associate a negative with a positive lens, and to render the field flat.

Fig. 28



The next aberration which we have to deal with is the distortion. If

Fig. 29



we describe a network of straight lines, and hold a convex lens over it, placing the eye at a distance from it in the axis of the lens, only the two right angle lines of the centre appear straight; the others appear curved. When the upper is in the reverse position to the lower one, they appear pincushion shaped. Distortion of the negative lens is reversed, the lines appear as the curved sides of a barrel.

The cause of distortion is somewhat difficult to explain, but the following figures make it clear. Let us describe upon a plate or plane surface a

Fig. 30

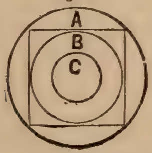
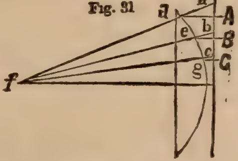


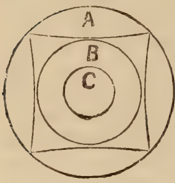
Fig. 31



number of circles, *A*, *B*, *C*, equidistant from each other (Fig 30 in front view, and Fig. 31 in profile), and place in front of them (Fig. 31) the lens L. Now the rays which proceed from *A*, *B*, *C*, parallel to the axis of the lens, strike it at *d*, *e*, *g*, from whence they will be refracted, and meet at *f*, the principal focus. If we place the eye at *f*, we see the circle *A*, not where it really is, but in the direction *f d*, the circle *B* in the direction *f e*, and the circle *C* in the direction *f g*. By prolonging the lines of directions, until they meet the plane of the circles *A B C*, we observe that the circles do not appear equally apart, but their distance is increasing from *C* to *A*; they will appear as in Fig. 32.

We will suppose for a moment that the circles *A* and *B*, (Fig. 30), are of such relative diameters, that a square inclosing *B*, with its sides tangential shall have its corners in the circle *A*. Now if we draw the circle *A* and *B*, (Fig. 32), (as they will *appear* from *f*), the distance between *A* and *B*, will be greater, or equal to *a b*, (Fig. 31), and as the contact of the side of the square with *B*, (tangentially), and with *A* at the ends must be kept, the line of the side will now *appear* curved or bent (Fig. 32).

Fig 32



A single lens without distortion cannot be made, but by combining two or more lenses in connection with diaphragms in a certain position, the distortion may be corrected completely. If a diaphragm is placed in front of a lens *L* (Fig. 33), different parts of the lens are employed to form different parts of the object *C D*. In this case the distortion is barrel shaped, but by placing the diaphragm behind the lens, as in Fig. 34, the distortion is of the opposite nature, that is, pincushion shaped. Rays coming from *D* (Fig. 33), pass through the upper part of the lens, while in the latter, through the lower part.

Fig. 33

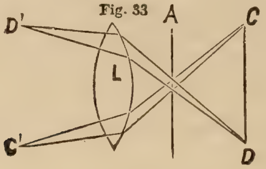
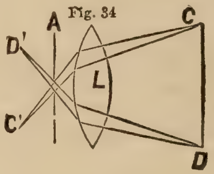
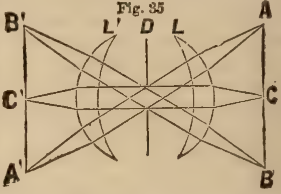


Fig. 34



Now you will readily see that by uniting two lenses, equal to each other, *L*, *L'* (Fig. 35), and placing a diaphragm *D* between them, it follows that the distortion accompany the lens *L*, with its diaphragm behind it, is corrected by the action of the same diaphragm, upon the rays entering the lens *L'*, where the diaphragm is now in front of the lens *L'*. The modern photographic objectives to be used for architectural work and copying are constructed on this principle.

Fig. 35



Unfortunately this advantage is obtained at the sacrifice of aperture, that is, of light. I mentioned before, that the negative lens has the opposite distortion of the positive lens, so that by proper combination of lenses of suitable curves and material, distortion can nearly be overcome upon a limited field.

Photographic objectives used for portrait purposes, when a large quantity of light is desirable for brief exposure, are thus corrected; but these are again open to the fault of a restricted angle of vision. In all other lenses, when the light is the desirable element to be preserved, the correction of distortion must be made, as far as possible, by a combination of lenses.

We come now to the last of the more important aberrations, that is, the astigmation, a word coming from the Greek, meaning: not coming to one point. If we focus a well defined, round object, situated in the axis of a lens of a wide aperture, on a screen, we find the image round, even if we move the screen in and out of the focus, the image will get only less sharp; but if we turn the lens sideways, so as to get the image of the same object formed by pencils oblique to the axis, then we will observe that it is no longer possible to form a sharp image of the object, and by moving the screen in and out the of focus, the image appears elongated, horizontally or vertically.

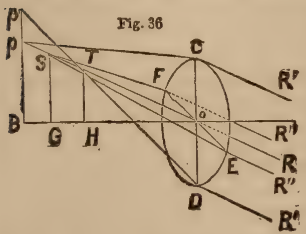


Fig. 36

Now let us see whether it can be made clear in the following figure (36). *C D* is a convex lens, of which *A B* is the axis. The lens is represented in perspective, as we have to show two planes in different directions. The radiating point *R* is situated at infinity, and outside of the principal axis. We will lay a plane through the axis *A B*, and the point *R*, which will cut the lens in its diameter *C D* Let us lay another plane through the point *R*, at a right angle to the former, and which will cut the lens in its diameter *E F*. If we draw the line *R p* through the optical centre of the lens, a ray following it would not be refracted, as we have seen before, and constitutes a secondary axis. *R p* is the line where the two planes cut each other, and consequently belongs to both planes. Let us draw the two extreme rays, *R' C* and *R' D*. of the diameter *C D*, which, after refraction are *T* and *p'*, as we learned by analyzing spherical aberration. If we now look to the other plane, the rays *R'' F* and *R'' E* are symmetrical to the axis, and are exactly equally refracted, meeting at the point *S*. If the lens is now diaphragmed down, so as to improve the aberration of the plane *C* D, we find that we have for one lens two distinct foci If we focus, for instance, a brick wall, we will have the horizontal white mortar lines in focus, while the vertical ones are out of focus, and *vice versa*. By looking to the figure, you can easily see that that universal doctor in optics, the diaphragm, will also cure astigmation, at least will bring it to a minium. Fig. 35 will suggest a way by which astigmation may be destroyed almost completely. The diaphragm *D* divides the lens *L* into an infinite number of lenses, of which each acts on a different radiating point, and the pencils in or out of the axis strike the lenses almost normal, hence such a combination is not only nearly free of distortion, but of astigmation also.

Many of you are aware that in nearly all human eyes there exists an aberration, also called astigmation. Although in its effect similar to the astigmation of lenses, just mentioned, it is of a different character. Nature intends that the curves of the cornea and crystalline lens of the human eye should be spherical; but the exceptions seem to be the rule The curves of the cornea and crystalline lens of the eye are in nearly all cases, more or less elliptical, egg shaped, and consequently have in one meridian a longer focus than in the other. If such an eye brings the image of a line parallel to one meridian to a focus at the retina, the images of lines parallel to all the other meridians do not collect at the retina, especially the one at right angles to the former, and a distorted, blurred image is the result. The advancement of science has lately enabled our oculists to correct this evil by spectacles, of which the glasses are parts of cylinders, instead of spheres.

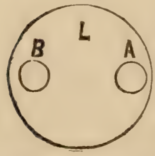
Now, knowing all the defects of lenses. and the different modes of correcting the same, let us look back to that primitive instrument—the pin-hole camera. The pin-hole camera is free from all the errors, as spherical and chromatic aberrations, distortion, curvature of field, astigmation; and the only objection against it is the extremely small aperture. What an amount of speculation and hard labor of the most eminent men were necessary to furnish a substitute, equally free from errors, having a larger aperture, giving a brighter image.

And even now, none of the aberrations can be completely corrected, and the best that can be done, and that for a limited aperture only, is to reduce the errors so far as to diminish their extension, so as to make them appear to our eye at a smaller angle than the eye is able to distinguish. In lenses used as objectives, where the image is magnified by high eye pieces, even that is extremely difficult, as the errors are also magnified. Our most celebrated opticians, such as Fraunhofer, never attempted to give a telescope objective a larger aperture than the focus divided by ten, except in very small pocket telescopes. And his larger telescope, the one he made for the Dorpat Observatory, and which he considered his best objective, has a focus of 160 inches, while the aperture is only 108 lines, that is 1-17th of the focal length, and its highest magnification is 720 times. The larger telescopes of Dollond are nearly twice as long. The same artist, Fraunhofer, took precaution to warm young opticians and amateurs not to listen to the very natual desire to try their skill on larger apertures, and giving higher magnification, if they do not wish to be disappointed, and lose time and money. But the school of experience seems to be the only one to cure this desire.

But here I feel bound to mention that a few years ago, Mr. Steinheil, of Munich, read a paper before the Academy of Sciences of that city, on an improved telescope objective. It is composed of four lenses—one positive crown glass lens, combined with a compound negative lens, which itself is a triplet of two flint and one crown glass lenses. By this formula, a four inch telescope is only two feet long, while in the ordinary way it is twice as long.

While I am speaking about wide apertures, I cannot pass without mentioning a very serious obstacle connected with large apertures; it might be called the parallactic error. I was frequently asked why a large photographic objective does not give the same sharp image that a amall one does. It is somewhat more difficult to correct a large objective than a small one, even if the aperture stands in the same relation to the focal length. But it is not only this. Suppose we have a large photographic objective, say of six inches aperture, *L* (Fig 37). Each part of the lens receives radiating rays from each point of the object, and brings them to a focus at the respective place. Now, if we cover the lens by pasting paper over it, leaving only the aperture *A* free, we still get an image, only more feeble in light. Again, cover the aperture *A*, and open the aperture *B*, you get an image of the same object; but the apertures *A* and *B* are say four inches apart. Both cannot give precisely the same image, as they are taken from another base. The images will be similar to the two images of a stereograph, which are taken in a similar way by two lenses. Now open both apertures, *A* and *B*, and as the images are not equal, they cannot cover each other, but will overlap, especially the images of the nearer objects. If we now use the whole aperture of six inches diameter, it is clear that we will have an infinite number of images, none equal to the other; every one overlapping the other, and the image, necessarily, must be a blurred one. For this there is no remedy but cutting down the aperture.

Fig. 37



Ladies and Gentlemen, we have now a reasonable knowledge of what a lens is, and I would like to go over to the more interesting part of optics—to the combinations of lenses—such as the telescope, the microscope, and camera, which not only have given us so much pleasure, but have enlarged our knowledge so wonderfully; but this would require more time than we have on hand to-night, and I will not tax your patience any longer, but thank you for the attention you paid to the rather wearisome subject, and for the interest with which you followed the lecturer during the evening.

DIABETES.

Brief Notes on Literature of, with Report of an Interesting Case

At White Cliff Mineral Springs and "Mountain Health Resort."

By A. B. Tadlock, M. D., Resident Physician.

This is one of the rarest diseases physicians encounter in Eastern Tennessee, indeed it is not known by the profession to be of common occurrence in any of the states. This paucity of cases certainly could not be attributed in the least to mistaken diagnosis, for while the pathology of glucosuria is as yet a matter of theory and speculation, no disease presents greater boldness and unity of symptoms. Nor is this unity compromised in the diversity of resultant affections, for continued diuresis always apprises the patient and physician of the probable nature of the case; and the easily applied chemical tests will generally, if not always, unmistakably reveal the ever present product, "sugar in the urine." Whatever other physiological or pathological disturbances accompany or supervene, this presence of sugar is pre-eminently the acknowledged characterizing symptom of diabetes, hence no extraordinary sagacity or close scrutiny is required to make out the case.

Owing to the excessive liquid eliminations through the kidneys, depriving the skin and mucous membrane of the necessary moistness, consequent thirst, cough, dry surface, and constipation obtain; consequent also upon the withdrawal of the sugar, or the formative elements of it, an excessively offensive corporeal smell, like stale apples or souring broom-corn, is given off. Other secondary phenomena such as moroseness, irritative itching, weariness, præcordial pain, unusual excitation of action of the heart, abdominal disquietude, dimness of vision, impotency, etc., are not essentially diabetic symptoms, but due to perverted nutrition and mal-assimilation. The specific gravity of diabetic urine varies from 1020 to 1060, owing to the quantity discharged in a given time, it being generally more during the day than night, and varying from thirty to forty or even seventy pints in twenty-four hours.

April 21, 1876, J. U. N., æt 24, by directions from his physician, Dr. Sneed, of Strawberry Plains, applied to me for treatment with the following symptoms: Patient 6 feet high, and weighs 135 lbs., having lost thirty pounds in the last three months; black hair, dark complexion, spare make, and approaching leanness; restless and nervous, and confessedly more impatient and irritative than usual; arid skin; bowels greatly constipated; no action without purgatives since December last; thirst insatiable; transient pains in eyes, liver, kidneys, spleen, and chest, with annoying flatulency and sense of abdominal "gnawings;" appetite very good, and has been all the time; herpetic eruptions on breast and abdomen at times; sleep of nights not sound, being often disturbed by calls to micturate; irregular and tumultuous action of the heart with blowing sounds and heaving of the carotids; scrotal hernia and varicocele on left side; never had any venereal disease; had intermittent fever eight years ago and three years ago, last time continuing about three weeks, and was "cured with quinine."

In a scuffle with a fellow-schoolmate sustained an injury to the back, first day of December last, which the patient did not consider of any importance, but has never been strong in the back since, and suffers pain when riding horseback, the "cords clear up to neck feeling sore." Does not use tobacco or whisky. First noticed the excess of urine on the 25th day of December last, which has been increasing in quantity ever since. Body odor peculiar and offensive.

Test—Quantity in twenty-four hours, 168 fl. ozs.; acid; color light; specific gravity 1032; Moor's test, Stromer's test, and the yeast test all gave evidence of sugar, and upon applying Dr. Robert's rule each ounce was found to contain thirty-four grains of sugar.

℞ Acid Carbolici..............................grs. xij.
Ergotin.......................................ʒ i.
Strychnine....................................gr. j.
Quin. Sulph...................................grs. xij.
Podophyllin...................................grs. iv.
Zinci Valerianat..............................grs. xij.
M. ft. pills No. xxx—one three times per day.

May third, pulse 84; temperature 99°; pills (all taken) had operated on bowels nicely for the first few times, subsequently losing that effect. Had been urinating much less for the last few days; took hot baths and avoided saccharine and amylaceous diet as directed; tongue slightly coated, and complains of pain in the eyes; thirst less; vascular excitement improved; lung oppression diminished, and abdominal symptoms better. Amount of urine diminished to 78 ozs. in 24 hours, having 20 grains sugar to the ounce, and a specific gravity of 1040.

July 25th, greatly improved in strength and physical appearance; feels quite well; has taken but little medicine for last six weeks; bowels regularly open; specific gravity of urine 1028; sugar six grains per ounce; discharge per day six pints; eats freely of all kinds of diet served up; sleeps well and has gained in weight. Discharged on account of patient having to return to his home in a distant part of the state. (White Cliff Mineral Springs are located on the summit of Star's Mountain, Monroe County, Eastern Tennessee, 3600 to 4000 feet above sea level; waters are chalybeate, alum, sulphur, and freestone, with magnesia and lime in small proportions, carbonates prevailing; air very dry and highly charged with ozone. The place is kept as a popular summer resort, and has at present date from 175 to 200 guests, mostly from southern states.)

THEORIES AND EXPERIMENTS.

The first and probably the most natural theory of the source of diabetic urine attributed it to renal changes, either anatomical or functional, the saccharine elements being furnished by the blood and formed into sugar by the kidneys. This theory being exploded, that of the superabundance of sugar itself in the blood with a natural tendency to pass per renalis took its place. This, however, to be for a time successfully contradicted by eminent chemists seeking but not finding sugar in the blood. After this, chemistry contradicting itself, or rather the eminent chemists finding themselves in error, it was shown that sugar positively existed in both venous and arterial blood of diabetic patients. Dr. McGregor, of Glasgow, who established the latter fact, also proved that grape sugar was present in the partly digested food brought up from the stomachs of such patients; hence he inferred that the cause "sometimes may lie in the digestive organs." To prove its existence in the stomach and alimentary canal (for he found it in the saliva and feces) he instituted experimentation by the administration of yeast, and the observation of its chemical effect in the stomach, whereupon it is narrated that his subjects came "very nearly being blown up," and he had to desist.

Dr. Harly showed that the presence of irritative substances in the portal circulation was productive of glucosuria, and reasoned as follows: The impression of the irritant being conveyed from the portal vein through the pneumogastric nerve to the sensorium, and thence reflected to the liver through the splanchnic, cause the liver to secret a large quantity of sugar which was carried to the kidneys in the general circulation. This led then to contrived irritation of the brain at the origin of the pneumogastric nerve, which likewise was followed by sugar in the urine, and hence obained the theory of disease and injuries or functional disturbances of the brain being the seat and pathology of diabetes. Dr. C. Bernard, I believe, being the author.

Dr. Ruse, with much acumen and perspicuity, but with no experimental proof, places the main error in the hepatic organ and functions, or in the organs influencing that viscus which results in the manufacture of a specimen of liver sugar, indestructible or else not convertible by natural physical and chemical processes in the blood, and necessarily must be discarded through the kidneys.

Dr. Lusk, by experimentation, shows that sugar naturally exists in the general system, though more copiously in the portal, not only immediately after digestion, but in starved animals; and thinks that "the liver is by no means the only source of the sugar found in the economy."

Dr. Pavy is credited with the experimental results of producing diabetic urine by injecting defibrinated arterial blood into the portal system. The counterpart experiment with defibrinated venous blood gave negative results, and comments as follows:—"It thus appears that oxygenated blood passing to the liver causes an escape of sugar from the organ, and thence an accumulation in the system, and discharge with the urine. It also appears that through the medium of the respiration of oxygen he has succeeded in inducing a sufficiently oxygenated state of the blood to similarly give rise to the production of saccharine urine. He has further found that through the agency of the inhalation of puff-ball smoke an immediate and strongly diabetic state may be induced, and that the effect is accompanied with such a modification of the circulation that the blood flows through the vessels, as is the case after section of the sympathetic, without becoming properly dearterialised. His experiments, he considers, suggest that, in diabetes of the human subject, the blood, in consequence of vaso-muscular paralysis, is allowed to reach the portal vein in an imperfectly dearterialised condition, and thus determines the escape of sugar from the liver."

It may be interesting to note that it has been observed that urine taken from the bladder ten hours after death does not yield sugar. This we think may be made an interesting feature in the study of diabetic pathology. We have been disappointed in being unable to gather anything interesting or reliable on the causes of diabetes, but it is observed to be more prevalent with some peoples than with others, the Welsh being among those most subject to it. Dampness and cold are said to favor and aggravate attacks. In the course of the disease it may also be interesting to note that the absence of sugar before, and its presence after, meals indicates that the disease is in its first or incipient stage.

Beyond routine practice, and a morbid disposition to empirically make new discoveries by experimenting with the constantly multiplying new remedies, which are so often now-a-days nothing but phamaceutical tricks of trade, but little appears in print of importance other than every student of medicine is familiar with. Theorizing, Dr. Day thought that if he could oxidize the sugar in the general circulation, it would be an approach to its natural elimination by the lungs, and to that end gave an etheral solution of peroxide of hydrogen with gratifying results. This theory is based upon Shonbein's application of ozone (peroxide of hydrogen being decomposed and transformed into ozone through the agency of the blood corpuscles) as the only condition in which oxygen possessed any active combining properties.

Budd and Pierre, dissenting from the nitrogenous treatment of diabetes contraria contraribus, etc., entertained, unawares probably, similia similibus, etc., and, upon isopathic principles, administered sacharine substances to the amount of eight ounces or more of sugar daily, with extraordinary and beneficial effects in some cases.

POLYPUS OF THE EAR;

By W. R. Amick, M. D., Cincinnati.

Mrs. G., æt. 53, has always enjoyed good health. Never has had any aural trouble. Presented herself June 20, for treatment for some trouble of the left ear. Stated that about a week previous her ear began to be painful, and that it appeared to her as if a small furuncle was forming in it. This condition has continued ever since, the tumor increasing in size, while the pain has been increasing in a corresponding ratio, but paroxysmal. Four days ago she noticed that the auricle began to swell and two days later her face also. Ever since the auricle began to swell it has been almost impossible to move it on account of the great pain produced. Has slept very little for the last three days and nights. During the last sixteen hours the pain has been constant and excruciating. Has a sensation of fullness and throbbing in the ear, the throbbing at times becoming violent.

On examination found the entire auricle very much swollen and very sensitive to the touch. The external auditory meatus was completely closed. The swelling had extended upwards and forwards all over the temporal region, all around the eye, and downwards to the lower border of the inferior maxillary. Directly in front of the tragus there was a tumor as large as an almond, but presented no evidences of fluctuation.

As the meatus externus was entirely closed there was no chance of examining the canal. Hearing in right ear normal, in the left with the watch in contact 0. After a few trials a probe was passed into the external canal for the distance of a fourth of an inch, when quite a large quantity of serum pus and blood escaped. The opening was then further dilated until a small stream of warm water could be injected, and the outer portion of the canal thoroughly cleansed. Then, by inserting an aural speculum into the opening, a large fungus mass could be seen, which, had it been placed in a normal ear, would have extended out beyond the outer border of the tragus. This mass was very sensitive, and would bleed very readily when rubbed with a probe. On account of the swelling it was impossible to pass a snare or wire around it for the purpose of removing it, neither could the knife or cautery be used. It is questionable whether that would have been appropriate treatment, with so much swelling, even if the instruments could have been used. After syringing, a few drops of arg. nit. gr. xx, ad aq. dest. ℥j. were dropped upon the polypus, and cold applications ordered.

On the following day the tumor in front of the tragus was not quite so prominent or painful. The swelling had extended farther in all directions. The eye-lids were so much swollen that the globe of the left eye could scarcely be seen. The treatment for the first seven days consisted in keeping the ear clean by frequently syringing with tepid water, and the daily application of a few drops of a solution of arg. nit. gr. xx ad aq. dest. ℥i. By this time the swelling was sufficiently reduced to show that the mass filled the canal completely.

Owing to the size and sensitiveness of the tumor, it was impossible to place a snare around it, or to remove it by incision, without putting the patient under the influence of an anæsthetic, to which she objected. From this time on for a period of three weeks, lunar caustic was applied every other day. Afterward it was employed every third or fourth day. At the end of the fourth week the tumor was all removed but the pedicle by which it was attached. The pedicle was very short, and had its attachment to the inferior wall of the external canal. It remained very sensitive to the last, but the cauterization of the large mass was more painful than of the root, even after it had been removed to below the surface of the mucous membrane of the canal.

After treatment was instituted she complained of severe pain in the right ear, but an examination produced negative results; the pain, however, passed off in a few days and did not return. Patient complained of pain in the frontal and left temporal regions, but as the polypus disappeared the pain did also. At the end of the sixth week the polypus was gone, the swelling had disappeared, the pain had ceased, and the hearing was normal. In a word the patient was well.

MILK SICKNESS.

Read before the Shelby County Medical Association, by J. M. CARTER, M. D., Jackson Centre, O.

I wish to call attention to a disease by the name of Milk-Sickness, of which little has been said in any of our text books; and yet it seems our country is plagued with it to a considerable extent, more especially in newly cultivated and thinly settled localities. That that which produces the disease exists in milk, butter, and also in flesh, is beyond dispute; but of what it consists is as yet unsettled. Some claim that it has its source in water, some that it is in certain shrubs or plants, others that it is a mineral substance beneath the earth's surface, others that it is a poisonous vapor arising at night from the earth and settling on vegetation.

I have given this disease my attention to some extent for a number of years, but I have not been able to come to any definite conclusion as to its causes. I will, however, beg leave to differ with my friend Dr. Nichols, of Wapakoneta, Ohio, in an article in the *Clinic*, January 15, 1876, in which he states that it has its origin in the rhus toxicodendron. He says it does not prevail where this shrub is not to be found. I will say the disease does not prevail where it is found. I will cite the gentleman to plenty of localities where the poison oak does exist, and yet there are no signs of milk-sickness.

Why is it that after fields have been once cultivated the disease disappears? It is a well known fact that after the soil has been broken up and cultivated the diseases disappears, no matter how much of the poison oak may be in the fence corners or elsewhere in the fields. That certain localities are affected, while others are not, I do not deny; Auglaize County and northern parts of Shelby County, are comparatively uncultivated; and where so much wild land exists so will milk-sickness exist. Champaign, along King's Creek, was formerly as bad as Auglaize; so also around Troy, Green County. Now the disease is not known. Were it the poison oak, why would it not still be there, where the poison oak may still be found? If this disease has its source in shrub or plant, why is it our chemists have not been able to find the poison in them? Theoretically, I have come to the conclusion that the disease is produced by a poisonous vapor rising at nights, and settling on vegetation, and the cattle, eating the plants while the dew is on them, become, as it were, permeated by the poison. I have never seen or heard of a case of the disease when cattle were "kept up" of mornings until after the dew was off; although they may be in parts where the affection is known to exist. When the land is cleared, plowed, and the sun allowed to shine on the soil, the disease disappears. That the poison does not exist in water is shown by the disease prevailing as extensively in dry seasons, when farmers have to water all their stock at the well, as in wet seasons. I never saw it prevail so malignently as during the drought of 1874, when all ponds and creeks where entirely dried up. That this disease is worse during the months when the dew is heaviest is another noticeable fact to support the theory that the poison settles on vegetation at night.

The pathology of this disease is not so readily arrived at as our friend Dr. Nichols would have it. I am willing to acknowledge that the breath is to some extent pathognomonic of the existence of the disease, but not at all times is it reliable; symptoms of the disease may exist for weeks before the patient is confined to his bed, but not until the disease is at its height is the peculiar breath found. The peculiar odor has been compared to that of chloroform, ptylism, or breath of the cow. Scarcely ever do any two describe it alike; not unfrequently the disease is complicated with malarial disease

Symptoms: There are two forms of this disease, acute and chronic. In the first the individual is languid, indisposed to make any exertions of the body or mind, appetite variable, bowels torpid, palpitation of the heart, slight stiffness of limbs, trembling if any considerable exertion is made. If there be no interference more grave symptoms supervene. The patient is seized with extreme nausea; prolonged vomiting, faintness, and prostration follow; temperature of the body falls below the natural standard; distress and anxiety are depicted upon the countenance. It is at this period the breath acquires a peculiar fetor; the tongue becomes somewhat swollen; bowels obstinately constipated. Strong pulsations are observed over the abdominal aorta. The heart and large arteries beat violently; but the pulse at wrist remains almost natural. The tongue in most cases is but slightly coated. A complete retroverted action of the stomach comes on, and at ever effort of vomiting a fluid is ejected of variable appearance, mostly of an indigo color; and in the last stages, when it terminates fatally, it is of a dirty brown with dark colored sediment.

During the intermissions of vomiting, patient lies tossing his limbs about, being sometimes in a comatose state, but easily roused when spoken to. Intense pain in the limbs and back is felt, besides acute gastric pains, with a peculiar and intense sense of heat at the pericardium, causing the patient to call loudly for water.

The prominent indications in the treatment are to allay gastric irritation, overcome constipation, relieve the affected organs, and lastly to counteract the debility and exhaustion of the latter stages. Purgatives are necessary throughout the whole course of the disease; among these I find nothing better than a decoction of senna and jalap, in small doses, repeated often, along with small doses of epsom salts. Calomel I have always found detrimental to the disease; so also opium in any of its forms. Sinapisms and blisters are very valuable. Where exhaustion is very great, alcoholic stimulants should be given freely in both the acute and chronic forms of the disease.

INTEMPERANCE AS A DISEASE.

By Dr. Joseph Parrish.

The testimony has been as profuse and authoritative on the subject during the past few years, that I need not repeat it. I must be allowed, however, to refer to the recent action of the British Medical Association, at its meeting last month, at Edinburgh, as the latest declaration of a public character that has come to my notice. The subject was introduced by Dr. Alex. Peddie, whose name and distinguished position are recognized here, as elsewhere. He has drawn the line so distinctly, that I prefer to quote his own language, as transmitted to me by a friend who participated in the discussion. Dr. Peddie said, in speaking of that class of inebriates, who are popularly recognized as "habitual drunkards"—1. "They were those who inherited the propensity for drink; 2nd, those who evinced it as the chief manifestation of some form of cerebral disease; 3rd, those who were affected with it, as the result of injury of the head, severe fever, or other waisting bodily ailment, mental shock, heavy grief, or reverse of fortune; and indeed causes similar to those anteceding some other insanities; and 4th, those who acquired it, through a course of vicious indulgence in stimulants. The distinguishing features of the malady, (continues Dr. Peddie,) are total loss of self-respect and self-control, under an overwhelming craving for alcoholic drinks, with little or no palatal relish, which must be gratified at any cost, utterly regardless of honor or truth, and in fact unaffected by appeals to reason, self-interest, tears of affection, or any suggestions of duty to God or man." * * *

"That excessive intemperance is, in many cases, a symptom of a special form of insanity which requires special treatment, with a view, first, to the recovery of those affected, and second, to the protection and advantage of them, and of society. That in the present state of the law such treatment is not attainable, and that it is desirable that legal provision should be made to render it attainable."

Gentlemen, you will agree with me, that these are tokens of progress in the cultivated mind of Great Britain, which ought to cheer and invigorate us on this side of the Atlantic, you will permit, too, I know, to mention a name in this connection, which should ever be associated with this cause. Some of us will remember Dr. Donald Dalrymple, to whom Great Britain is indebted for this new departure, in the line of scientific philanthropy. We remember him, as he sat with us in our own Asylums, plodded through our heavy statistics, and with patient and constant faith studied the subject in all its bearings, and looked forward to this consummation; but he has been gathered to rest while we are left, to testify that "his works do follow him;"—a gentleman, courteous, scholarly, benevolent, christian.

HOSPITALS FOR INSANE.

While upon this branch of the subject, I call your attention to another item of current intelligence, which is significant of progress in a direction that was not so soon anticipated.

The Superintendents of Hospitals for the Insane, in the United States and adjoining provinces, at their late annual meeting at Auburn, New York, in June last, took a step quite in advance of their former position and practice on this subject, by the passage of resolutions, expressive of their opinion, that institutions for inebriates should be established by law, and sustained by public appropriations, for the reason, that the presence of inebriates in the hospitals under their charge, is injurious to the insane. I believe I cannot pass on to other topics, without pausing a moment, to say, that I fear these gentlemen have committed a blunder, by announcing their opinion that it is "entirely futile, if not worse than useless," for inebriates to attempt to recover, by voluntarily committing themselves to the custody and guidance of Inebriate Asylums, but that they should be subjected to statutory inquisition, legal commitment, and enforced confinement for a long period, in order to accomplish any good. The experience of Inebriate Asylums does not justify such an opinion, unless with considerable qualification.

Enforced abstinence and compulsory detention, in many cases, beyond a period that is essential to the recovery of clear intelligence, and reason, will almost certainly seek indemnity and indulgence when opportunity offers. There must be some play given to volition, and the cultivation of a restraining judgment. Inebriates are not, as a class, insane, and it is to be regretted that the superintendents of such asylums have limited their apprehension of the subject, within the restricted range of their own specialty. If inebriates are insane, why have separate institutions for them? And if they are not insane, why deal with them as if they were? The fact, however, is encouraging that the association of superintendents of Lunatic Asylums should have recognized the current of public opinion, and fallen into it, as gracefully as they have.

AN ENCOURAGING VIEW.

I shall now ask you to follow me, into what may seem to some, who are present, a novel sphere. We constantly hear it said that intemperence is on the increase—that it is kiling off from sixty to a hundred thousand people every year, and that it is rapidly deteriorating the race, so that if we accept these statements as true, we may teach our children that after a few generations more their descendants may look for a general wearing out or wasting away of all human existences.

Dr. Beard says, we are by nature "a race of drunkards and gluttons," and some are disposed to believe that the day of ruin is being hastened by the intermixture with beer drinking Germans, and whisky-loving Irish. But what are the facts? It is true we are a fast people; a people of sudden excitements and intense re-actions; but I think statisticians tell us that our average life is longer than that of our progenitors—that intense as we are, as excitable, hard-working and hard-drinking, we manage to live longer and do, perhaps a thousand times more service, in our allotted time, than did our ancestors. We converse by telegraphy with all the nations of the globe every day — we traverse all the seas by steam, and touch every island and continent in a few weeks. We print thousands of pages, in the same time that Franklin printed one, and a thousand people read where one read then. And all this has been accomplished while whisky, beer, brandy, wine, and all sorts of alcoholic liquors have been manufactured and sold to our people, a majority of whom, it is believed, consume them. Not only this, but the higher civilization has gone on with equally rapid strides. Inquisitions and ordeals, and their concomitants, have gone to sleep in the tomb of the past, while the beneficent spirit of that distinguished virtue, "which thinketh no evil, suffereth long, and is kind," lingers about our threshholds, to woo our admiration, and entice our love, so that our people have already gone forth, and wrought miracles in the name of charity. All this too, in the face of what is said to be the demoralizing and ruinous effects of the liquor traffic and drunkenness upon the entire race.

INTEMPERANCE DIMINISHING.

More than this intemperance is evidently diminishing with the advance of the amenities of civilized life. Like other survivals of the ages of animalism, it is gradually disappearing. There are several reasons for this. With the culture of the æsthetic tastes—the love of the refined and beautiful—comes the appreciation of these qualities in each other. Men affiliate and combine on the grounds of a common taste ; and as the culture of art refinement in general advances, vulgarity, lowness and excess are disallowed ; the inferior passions being remanded to their proper places.

Religious obligations and the conventional sentiment of refined society, all move side by side with the æsthetic qualities, and men grow into moderation and self-control by the civilizing forces which multiply as we advance.

This is one reason. Another may be found in a wonderful physical fact, which has its basis in the law of heredity, and by which we are enabled to obtain more positive knowledge concerning the disease we are considering, and act with more intelligence towards preventing it. It is known that that form of drunkenness which is commonly called periodical, but more properly paroxysmal, is almost always the result of a peculiar inherited predisposition. I might quote authority upon authority in confirmation of this now generally accepted doctrine ; but the quotation already made from Dr. Peddie is typical of medical sentiment generally, and is sufficient. The point to which I wish to call your attention specially is, that this form of drunkenness has its period of termination, as well as of recurrence. It either discharges itself, or is deflected from its course into a different mode of manifestation. It has its climacteric period also, and I ask my brethren of the Association to note this period. In my experience it is somewhere between forty and fifty years of age, and I believe more people recover from this form of inebriety at this period of life than any other. They recover by the discharge or exhaustion of the propensity to drink. If, however, there is simply a deflection of the impulse, they may degenerate into some form of chronic alcoholism, and, in consequence, fail in the offices of progeniture, and thus save the future from the degree of blight that might otherwise be inflicted. It may be asked, why has not this law been operative in the past, and why are its effects not visible in the present generation? The answer is, that there can be no doubt we are realizing the effect of it, and that one of the effects is the peculiarity of this particular paroxysmal form of drunkenness. Delirium tremens and mania-a-potu were much more common a generation back than now. Indeed, they may almost be said, at this day, to be rare, in comparison with their former frequency. The tendency to them appears to have deviated into what is now-a-days called dipsomania, and from this deflection there seem to be divergencies into the various forms of chronic alcoholism, which, after a while, may so far lose their course, and be divested of their characteristics, as to be undistinguishable, except in the general features of paralysis, apoplexy, dementia, and so on. I do not know that this feature of the subject has been observed by you, but I cannot but believe there is force in it, and I commend it to you as at least worthy of thought and investigation. Let me restate it—Dipsomania is a comparatively new form of disease, a deviation from mania-a potu, taking a more chronic and obstinate form. It has increased, and the former diminished. The tendency of dipsomania is to chronic alcoholism as manifested in permanent lesions of brain and ganglionic structure, and resulting in incurable nervous disorders. The modification of nervous susceptibility in persons inheriting this tendency, predisposes them when under the influence of liquor, to more positive damage, though it may not appear in such acute and violent forms. If it be admitted that there has been a decided modification of the vice of drunkenness by the improving influences of intelligence, refinement and virtue—and that the criminal view of the subject is being better understood and distinguished from its other aspects, and we have to do with it more as a disease, is there not good reason to hope for better results in the future? Sanitary boards, as they are constituted in our chief cities, tell us not a little about preventible diseases, and propose various means of prevention, and success seems to attend their efforts in proportion as the people appreciate and apply the recommendations of such boards. When inebriety shall be classified with other diseases, and Boards of Health and Commissioners of Hospitals and Charities shall act upon this fact, in the same spirit and with the same efficiency that they do with regard to other disorders, there will doubtless be a corresponding improvement in the habits and lives of the people.

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TWENTY THOUSAND INEBRIATES.

Coming down to the present, we should be reminded, that according to a report made by the Connecticut Medical Society, only three years ago, there are believed to be twenty thousand inebriates in the State, whose condition and claims it is for us to consider, for in this matter we know no state lines, but are brethren all, in a common cause. It may seem obtrusive in me, however, to attempt any further argument in their behalf than has already been presented by the Commissioners who were appointed by the Legislature for the purpose, and whose report is a valuable addition to the literature of the subject. Twenty thousand inebriates! Did it ever occur to you, gentlemen, that one of the strangest reasons why the people should turn their attention to the disease-aspect of intemperance is found in the fact, that temperance societies, churches, laws, family warnings, and all the social and domestic influences that have been brought to bear on the inebriate, have failed to accomplish the good that has been expected of them? Surely, if this was a question merely of repentance and reform, the multiplied and influential means of the family, the church, and the pledge—the watchings, the followings, the beseechings, the prayers, the warnings, all would have produced much more fruit than has yet been gathered from these sources. Can there be such force in a mere habit, such allurement in a single vice, as to be able to withstand all the earnest and persistent labor that has been organized against it? For it must be remembered that the efforts in this matter have been specific. The counteractions against intemperance have been direct, positive, continued, and well organized. The pulpit, the press, the platform, the school, the family, have each represented organized forces against this evil, and yet the testimony is, that in this State at least, it has increased. What a libel this fact would be upon the heart-love of domestic life—upon the verity and earnestness of Christian doctrine—upon the better instincts of humanity itself, but for the fact that these well-meant and honest efforts have not been directed in the proper line of approach to the evil. A poison that lurks in the blood, has no antidote in appeals to the moral sense. A neurosis that inheres in the being, cannot be driven away by rhetoric. A proclivity that is enfibered with human structure, cannot be untwined by argument. These are facts, which may not have been admitted, because not thought of, but nevertheless, they are just the facts which have obstructed the progress of what men call the temperance reform. It is said that the well known John B. Gough declared in a public lecture, that out of 500,000 persons, who, up to that time, had signed the total abstinence pledge in America, 300,000 had violated it, and that Dr. Chambers, on hearing it, exclaimed, "Truly, what an out-burst of nature." While Mr. Gough on this occasion exhibited his candor, it is certain that his distinguished listener gave evidence of his deep knowledge of mankind.

Connecticut, like some other sections, has taken a new departure. She, too, seems to have discovered that while the ordinary methods of dealing with this subject have proved ineffectual, and that the arm of the law has not been long enough, or strong enough, to reach to the source of this evil, she has listened to the voice of philanthropy, as it has spoken through the Medical Society of the State, and asked the Legislature to establish a new basis of operations. The Legislature has wisely answered this appeal, by the passage of an "Act concerning Inebriates, Dipsomaniacs, and Habitual Drunkards," which is deserving of a moment's notice. It settles three important points.

First, the liberty of the subject, which is the great bugbear in this country and in Great Britain. The law of Connecticut defines the condition in which a man may be deprived of his liberty to be, when he "has lost the power of self-control." This is the language of the act, and that it is just and right for the individual, for his family and society, I think no one will question. If a person is found to be unable to control himself, whether from an insane or a criminal impulse, or from an overpowering craving for drink, it is a beneficent law, which provides for him. In all departments of jurisprudence this principle is recognized. An English physician has humorously said on this subject as follows: "All the talk as to the restraint of drunkards interfering with the liberty of the subject is balderdash, the liberty of the subject is interfered with from the date of his birth. One cannot be born but an Act of Parliament steps in and says he must be registered; then he must be vaccinated by order of Parliament, and when he grows older and wants to take a partner into the concern, he cannot be married in England after twelve o'clock, and what is worse still, he cannot be decently laid away in his coffin without an order of Parliament interfering with the liberty of the subject."

Having settled this point, the second is a legitimate result of it, namely, to provide a place of safety for such unfortunates as have lost their power of self-control, not as a punitive, but as a restorative measure; not in a prison, or House of Correction even, but in a retreat in some rural spot like Walnut Hill, where all the influences of cultured benevolence, together with the appliances of science, may be brought to their aid.

The next principle to be noticed in this Act of Assembly, is found in the security of the subject against unlawful detention, by guaranteeing to him the right of appeal to the court, in his own behalf. With such a law before the people, the next thing is to ask for money to build the Asylum.

Not that it is to receive so many inebriates, as are in the commonwealth, but that it is to work up to its capacity as to numbers, and to be at the same time a school from which the people are to be instructed as to the true nature of intemperance, and its remedies, as applied to the individual; and what may be found to be true of an individual of any class will be found to be true in the main of the class itself. Doubters say, your cures will be few, in comparison with the number to be cured. What can an Asylum, with the capacity for a hundred inmates do, towards relieving the miseries inflicted by twenty thousand drunkards? What can it do! Just what a protector to the infirm, a guide to the blind, a hand to the fallen, a hope to the dismayed, a mind to the demented, a teacher to the ignorant, always does. Just what skill, care, duty, industry, research, discovery, truth always do; and no act or declaration in the name of truth finds its way to the people, that it does not vibrate throughout society, impress its signet upon human consciousness and conviction, and demand a response. That is what it will do! The institution here will be to the intemperate world, and to those who are the direct sufferers from inebriety, what the colleges and the schools of the State are to the world of letters, and to the people who are seeking knowledge; what the retreat for the insane is to the families who are protected by it; what the church is to a "world lying in wickedness." One of the distinguished benefits that is being accomplished by such asylums, is the formation of public sentiment, and when the people shall learn what intemperance really is, what are its remote, as well as its proximate, causes, then, every intelligent household, afflicted by the evil, may become a miniature asylum, in which the subject will be treated upon principles that will ensure the judicious use of means, not only of cure, but of prevention. Can it be other than that with the civilizing culture of scientific knowledge, together with the refining graces of the family and religion, there will be gradually infused into the body social the invigorating elements of a new life.

Gentlemen, let us not leave this new soil, which has just been so carefully broken by the people of Connecticut, until with their consent, we shall have scattered a handful of seed, with the hope that in the near future we may enjoy a share in the well-fruited harvest, which is as sure to come, as that which followed the "handful of corn in the earth upon the top of the mountains," the fruit whereof shook "like Lebanon," until they of the city flourished "like the grass of the earth."

Selections.

BELLEVUE HOSPITAL.

Notes of Practice and Peculiarities of Treatment.

AN ASYMETRICAL DEFORMITY.

There was a peculiarity in the case of deformity before us which is only occasionally seen, namely, lack of symmetry depending upon paralysis of the perineal muscles on the left leg and the tibialis anticus on the right.

FRACTURE OF THE EXTERNAL CONDLYE OF THE HUMERUS—NEGLECT OF AN IMPORTANT ITEM IN THE CASE.

A stout, healthy boy, aged seventeen, received a blow which gave rise to fracture of the external condyle of the right humerus. The limb was dressed in the fully flexed position, and passive motion commenced as early as possible. The manipulations were steadily kept up, and each day a perceptible gain was made until good motion was secured at the elbow-joint, such as enabled him to extend the forearm fully and to touch the shoulder with the hand. Strict injunction was given that the passive motion should be continued daily for a long time; but the boy went out, engaged in business which called into action the hands and wrists chiefly, and entirely neglected to attend to the motions of the elbow-joint. The result was, that he returned to the hospital after a short time with the forearm flexed at nearly a right angle with the arm, and the elbow-joint almost in a condition of false anchylosis.

REMARKABLE DURATION OF JAUNDICE—A POINT OF PRACTICAL VALUE IN CERTAIN CASES.

In the case before us jaundice was the only symptom. It was very marked, and had been tolerated without special inconvenience for nearly four years.

INSIDIOUS APPEARANCE WITH PLEURISY WITH EFFUSION—PATIENT UNDER TREATMENT FOR HÆMATURIA.

A male patient entered the hospital and submitted to treatment for the relief of hæmaturia depending upon some cause not well understood. After he had been in a short time he complained of a very trifling cough, without expectoration, without fever, without marked shortness of breath, and upon examination of the chest evidences were found indicating the presence of fluid in one pleural cavity, as high as the spine of the scapula. No marked inconvenience was experienced by the patient, and that fact, together with the insidious approach, made the case worthy of note.

PLEURISY WITH EFFUSION IN A NURSING WOMAN—IMPORTANT QUESTION RELATING TO TREATMENT.

The rational symptoms and physical signs made the diagnosis of pleurisy with effusion, in the case before us, positively correct. The patient had a babe one month old, and the question arose, should the woman continue to nurse her child? Notwithstanding the weakened condition of the mother it was believed to be better that she should continue nursing, for the reason that the secretion of milk actually assisted in the removal of the fluid effused into the pleural cavity. Allow the child to nurse and compensate for the extra draught upon the nourishment of the mother by furnishing an extra amount of nutritious food. Besides, it was thought best not to wean so young a child just before the beginning of the hot season, unless circumstances rendered it absolutely necessary.

A NOTABLE CASE FOR HISTO-PATHOLOGICAL INQUIRY.

A male patient had suffered from acute articular rheumatism, double pleurisy, pericarditis and bed-sores, and bade fair to elude the grasp of the pathologist by getting well.

EXCEPTIONAL SITUATION OF A POPLITEAL ANEURISM.

A laboring man, æt. 42 years, in whom no history of syphilis could be obtained, and whose habits were moderately good, was engaged, four months ago, in dragging three bags of oil-cake, weighing three hundred pounds, up an inclined plane, when he experienced a sensation in the left leg, just below the knee, as though some one had struck him a blow. So certain was he that he had been struck, that he inquired as to which one of his companions had given him the blow. He suffered some pain immediately after the occurrence of the accident, but did not discontinue his work, and was not much annoyed with symptoms for a period of two months. During that period, however, when straining at work, and sometimes when quiet in bed, he experienced an itchy sensation, and occasionally a pain, in the lower part of the popliteal region of the left side. Two months after the occurrence of the accident, he first noticed a tumor in the same region, but it was not large. To obtain relief a variety of external applications were made; but at the end of the third month after the accident he was compelled to abandon work. The tumor at the time of the operation, four months after the occurrence of the accident, had increased the circumference of the limb two and a half inches, and the entire limb below its situation was somewhat swollen. The situation of the tumor was quite exceptional, for it was found to overlap only a small part of the outer and lower border of the popliteal space; the chief extent being to the outer aspect of the leg and below the popliteal space. The question arose: was not the tumor a pulsating tumor of the bone? It was believed to be an aneurism, because it was a pulsating tumor—a tumor with thin walls, a tumor that could be reduced in size by pressure upon the tumor itself, and also upon the artery above it, and was a tumor over which a distinct murmur could be heard, synchronous with the first sound of the heart. For its cure the femoral artery was ligated, and the patient did well.

EIGHT ATTACKS OF ARTICULAR RHEUMATISM BETWEEN THE AGES OF FOUR AND TWELVE YEARS—ABSENCE OF CARDIAC COMPLICATION.

The first attack occurred when the boy was four years old; the last during the past winter, and extended over a period of six weeks before he was able to walk without the aid of crutches. The first attack involved the ankles and knees, confined him to the bed and house, and lasted about three weeks; the intervening attacks had varied somewhat in severity and duration, but had usually continued three or four weeks. Upon physical examination of the chest no evidence of cardiac complication could be found. Why the boy should have escaped heart disease after having had eight attacks of articular rheumatism between the ages of four and twelve was a question. It was possibly due to the mildness of the attacks.

CONGENITAL MITRAL STENOSIS.

The girl had not suffered any inconvenience from the cardiac lesion until puberty had arrived, when she began to experience "uneasy sensations," some pain and palpitation in the præcordial region. The murmur indicative of the lesion mentioned could be heard with the greatest ease. To improve the general nutrition of the patient was the idea involved in the treatment. For that purpose Vallet's mass was prescribed in four-grain doses, three times a day, and at the end of a week there was marked improvement. Rest was enjoined and also a nourishing diet. Cod liver oil was not recommended because of a probable inability to digest it properly. Iron was believed to increase nutrition in some way, besides its mere effect upon the blood.

THE INNOCUOUSNESS OF VALVULAR MURMURS OF THE HEART, ILLUSTRATED BY CASES.

A male patient, æt. 27, was admitted to the hospital November 5, 1875, and stated that, ten years ago, having fallen from a scaffolding, he immediately experienced great dyspnœa, expectorated blood, and some blood came from his ears. For some time after receiving this injury he suffered from cardiac palpitation and severe dyspnœa upon exertion. The patient was temperate, but admitted that he had venereal disease. He had never had rheumatism, but distinct evidence of aortic lesion was present. That fact led to the remark that aortic lesion in a patient who was not advanced in years, and who had never had articular rheumatism, was strongly suspicious of syphilis. For many years he had suffered but little from his cardiac trouble. It was thought quite probable that the heart sustained an injury at the time the patient received his fall.

AORTIC DIRECT AND REGURGITANT MURMURS.

In this case the murmurs were sufficiently distinct to be easily recognized, but the inefficiency of the valves was probably not extensive for the reason that there was only moderate cardiac enlargement. The man had never had general dropsy, or cough, or expectoration. He had complained of dyspnœa, but upon close examination it was evident that he did not draw a very nice line of distinction between dyspnœa and palpitation. The clinical teacher remarked that he should say to such a patient, "Your heart is unsound, but that does not involve any immediate danger or immediate serious consequences, and is not inconsistent with a fair degree of health." The great aim in the treatment was to control accessory circumstances, such as those relating to exercise, habits, diet, and the general nutrition of the patient.

TOLERANCE OF CARDIAC LESIONS—MARKED MITRAL DIRECT AND SOFT REGURGITANT MURMURS—DOUBLE AORTIC MURMURS.

These murmurs occurred in a male patient, æt. 30, who denied venereal, but was accustomed to the use of alcoholics, and had his first attack of acute articular rheumatism five years ago. From time to time he had had slight hæmoptysis. Two years ago he first noticed palpitation upon exertion, and occasional attacks of dyspnœa, which had modified somewhat in severity. The attacks of dyspnœa had increased in frequency during the last eight months. It was quite probable, however, that in this case also very much of what the patient recognized as dyspnœa was nothing more than cardiac palpitation. There was but little enlargement of the heart. The case, therefore, showed the tolerance of cardiac lesions. In this connection the question arose: can we have pulmonary hemorrhage dependent upon mitral obstruction, before the heart becomes enlarged? It was believed to be possible, but it was regarded as rare for profuse bronchorrhagia to occur dependent upon that lesion.

MITRAL REGURGITANT MURMUR.

This murmur was found in a male patient, æt. 23, who had been intemperate, had had syphilis, and four years ago had had acute articular rheumatism. The cardiac impulse was slightly strong, which was the only present evidence of cardiac hyperthrophy. The patient suffered from headache, præcordial pain, dyspnœa, dizziness and palpitation, all of which were increased upon exertion. At the same time there was a murmur, with the first sound at the base of the heart, and it was suggested that that fact would explain many of the symptoms from which the patient suffered. The prognosis was by no means unfavorable as regarded serious consequences within a short period of time. It was remarked that a slight amount of regurgitation might be tolerated for an indefinite period. The existence and character of cardiac lesions, however, should be determined in each and every case.

REMARKABLE LIMITATION OF THE SYMPTOMS OF CHRONIC GASTRITIS TO THE STOMACH.

The man had been sick four years. The first thing that attracted his attention was vomiting, and for two years an attack came on every fourth week, lasted from three to five days, and then ceased. Then came five months of cessation from vomiting. During the succeeding two years the vomiting occurred every third week to the very day, generally taking place before breakfast, and continued throughout the attack with only an occasional hour's interval. The vomiting was not accompanied by pain, but the day previous to its recurrence the patient was able to say that an attack was approaching, on account of a feeling of uneasiness and discomfort in the abdomen. Latterly the man had only a feeling of nausea, with regurgitation of a slight amount of fluid into the mouth during the morning. The material which he had ordinarily vomited had been simply a yellowish, frothy, sometimes bitter, sometimes watery substance. He had lost flesh and strength; had no appetite for his morning meal; but towards night was able to eat quite well. His bowels were regular, and had been undisturbed throughout his entire sickness. The symptoms had been limited to the stomach. There had been no headache or vomiting of blood.

It was believed that the case would receive the most certain and the most permanent benefit from the use of the stomach pump. It was recommended to wash out the patient's stomach with tepid water from two to four times a week, and continue that plan of treatment for some time. Patients very readily learned to do it themselves, it was said, and as the general condition improved, the pump could be used less and less frequently, and recovery would probably be complete. If for any reason that plan could not be carried out, it was recommended that powders containing bismuth and cubebs, five grains each, should be administered three times a day. It was also advised that a trial be made to ascertain whether acids or alkalies agreed best with the condition of the stomach. It was thought probable, however, that the good effect of the powders of bismuth and cubebs could be increased by combining with them five grains of the bicarbonate of soda, but at the same time it was a fact worthy of note that some patients were made worse by alkalies, while others were decidedly disturbed by the use of acids. The patient had been accustomed to the use of the sour wines, and, perhaps, the setting aside of those and substituting an alkali would be beneficial. The Rhein wine was regarded as a very good acid preparation to recommend in cases where acids were required. The digestion of a great many old people might be materially improved by the use of an acid while taking their dinner, and the Rhein wines fulfilled such an indication very well.

ON TOPICAL BLOOD-LETTING.

On this subject, Dr. Mapother writes, in the Dublin *Medical Journal*:—

If Luschka's statement, that the umbilical vein, or ligamentum teres, of the adult is constantly pervious from the left branch of the portal to the deep epigastric, be correct, the leeching round the navel may be direct and effectual in inflammations of the liver and all other organs discharging blood by the portal vein. This anatomical point, however, requires confirmation.

For acute dysentery of the tropics, and other inflammatory affections of the abdominal organs, a hundred or two of leeches have been used without avail, according to writers of the last generation, while half as much blood drawn quickly from the arm produced a profound impression on the system.

There is no organ which has so special a blood-supply as the kidney. Insulated in a mass of fat, it joins no other part by vessels, except on the left side the testis, by the spermatic.

Renal congestion can, therefore, be scarcely influenced by leeching, or cupping the loins, and the good supposed to follow them must be attributed to the warmth, rest, and low diet, which usually are enforced; the first determining to the skin, to the relief of the renal arteries, the others checking the formation of nitrogenized compounds. The labor of the organ is lessened by all these means.

The testicle returns its blood by the spermatic veins, and as these vessels pass through the groins and join the superficial veins of the region, leeching there is best calculated to relieve the organ. The veins of the scrotum return to the superficial pubic and epigastric, and puncturing them I have found valueless in cases of orchitis, while the risks of erysipelas or ecchymosis forbid leeches.

The anus has been often selected for leaching in hepatic congestions; but as it is only the superior hemorrhoidal veins which return to the portal vein, any external bleeding can only be indirect. The middle and inferior hemorrhoidal veins go to the internal iliac. In the male nothing can be more intimate than the anastomosis between the veins of the bladder and prostate and rectum, and hemorrhage from one of these regions is often vicarious with that of the other.

To draw blood in acute cystitis or prostatitis the surface of the rectum is the fit site, and as leeches will scarcely fix there, it is better to puncture one or two veins with a narrow, long bistoury, the gut being held open by a speculum.

Concerning obstetric subjects, I always speak with diffidence. While it must be acknowledged that we have learned much from the practice of letting blood by direct incision of the womb, for congestive or inflammatory affections, it appears necessary that, in the case of virgins, we should seek some other source of depletion; the need, on account of moral reasons, is obvious; and, anatomically, the uterine plexus is slightly delveloped in the unimpregnated, and depletion from the labia or rectum will drain more fully. Around the rectum there is a free junction between the superior hemorrhoidal and uterine veins.

The veins in the limbs, deep and superficial, join at most numerous points, in order that the circulation shall not be interrupted during muscular action. Leeching the skin over an inflamed joint or periosteum is, therefore, the same as opening the vessels coming from the invaded part, and hence the undoubted efficacy of the measure in such cases. By the way, it is remarkable that we so rarely find the muscles the seat of inflammatory action. The rapid flow of blood, urged on by the muscles themselves, which are like hearts to the veins, may account for the immunity; whereas the fibrous tissues, so sparingly supplied, are often inflamed in the subacute way, and topical blood-letting is most efficacious. When treating aneurisms by complete pressure, leeching over the sac should give aid, by lessening the tension of the arrested blood, relieving it of serum, and increasing the fibrin. In cutaneous inflammations, erysipelas, acne, etc., the flow of blood and its effused fluids, by incisions, is too obviously efficacious to need comment.

Venesection at the bend of the elbow is almost a thing of the past, and to the question of general blood-letting I do not allude, but in severe whitlows and synovitis of the wrist joint it gives striking relief as a topical measure.

The same may be true of opening the internal saphena vein in acute inflammation of any part of the lower extremity.

As to the modes of topical bleeding, leeching is very generally applicable, and the German practice of puncturing the left side of the animal, so as to open the last of the gastric pouches—bdellatomy, as it is termed—

is worthy of imitation, as blood flows far more rapidly, and the quantity is trebled from each bite. Cupping over the bites, when the leeches have dropped off, draws blood quicker than stuping, and the bleeding will more readily stop, for the blood coagulates, its gases being exhausted.

Still, without dread, we cannot order the introduction of leeches into the nasal, pharyngeal, rectal, or vaginal cavities ; and puncturing the veinlets, and aiding the flow by irrigation with warm water, may be well substituted. Incisions draw blood more quickly, and the bleeding is more easily stopped. I have often bled from the nasal septum by touching the mucous membrane at three or four points with a sharp, long bistoury, the ala nasi being fully everted.

Let me now recapitulate some of the organs and the superficial spots whence they may be drained : The eye, at the mastoid process and angle jaw ; the cerebral hemispheres, at the nasal septum and posterior, inferior angle of the parietal ; the base of brain and ear, at the mastoid ; the right heart, over the thyroid body ; the pericardium and front of pleuræ, outside the caps of sternum ; the lungs, along the bases of scapulæ ; and the digestive organs, from the rectum. From the veins of this gut, also, those of the bladder and prostate, uterus and ovaries, can be depleted.

TREATMENT OF CONVULSIONS IN INFANTS.

Mons. Blanchez, in a lecture on diseases of children, in the *Medical Times and Gazette*, lays down the following rule for the treatment of convulsions. If it be a single attack, and gives no signs of a tendency to recur, it is best to confine ourselves to some hygienic precautions, such as securing efficient ventilation, etc. If the attacks run into each other, or recur at short intervals, revulsives should be applied to the lower extremities, compresses of cold water, or of water with ether, being also laid on the temples. Compression may at the same time be made on the carotid arteries, as recommended by Trousseau. The pulsation of these vessels must be sought for at the lateral parts of the neck, and then they must be gradually compressed backward toward the spinal column. The amelioration should be rapid ; and if after two or three minutes it has not manifested itself in an evident manner, the compression should not be longer continued. Inhalations of chloroform may then be resorted to, administering them in a very gentle and gradual manner. In order to avoid all danger, slight as this is, it is necessary that a certain quantity of air should be always mixed with the chloroform vapors. In some cases special indications present themselves, as for the employment of an emetic when it is well made out that the convulsions are due to indigestion. When the attack has been overcome, we must try to modify the general eclampsic condition by having recourse to anti-spasmodic treatment ; but the management of agents of this description requires great prudence, several of them being of a dangerous character. Their dose is of great importance. For an infant, from eight to fifteen months old, we should never exceed the dose of thirty centigrammes, after having commenced with five centigrammes. The maximum dose of belladonna powder is ten centigrammes, after having commenced with one, increasing it very gradually, and carefully watching the throat and pupils of the child. We may proceed more boldly with oxide of zinc or James' powder (which M. Blanchez has not found of any special utility), of which ten centigrammes may be given every two hours ; but bromide of potassium and chloral are to be preferred to any of these remedies. Of the bromide from ten to twenty centigrammes may be given every two hours, until fifty or sixty centigrammes are reached in an infant, and from two to three grammes in a child of seven. The effect should be manifest at the end of twenty-four hours, or the dose should be increased. A mixed treatment of the bromide and chloral gives little better results, the bromide being given during the day and the chloral at night. The maximum of the latter agent is twenty-five centigrammes for an infant, and fifty for older children.

THE NEW REMEDIES IN FEVER.

Salicylic acid and Salicylate of soda are at present attracting much attention in Germany for their property of reducing the temperature in febrile affections. We have already mentioned the researches of Fruringer, Mveli, and Wolffberg on this subject, and we propose in the present article to put our readers in possession of further observations, both clinical and experimental, which have recently been published. In the first place, as it was hoped that salicylic acid might become a cheap substitute for quinine in intermittent fever, it has been tried by several observers in that disease, but, unfortunately, with only limited success. Dr. Arnold Hiller, of Berlin, gave it to twelve soldiers, of whom six had ague for the first time, and six were suffering from relapses, and he found that though it really exerted some curative action, yet that ten times as much salicylic acid must be given in ague to produce the same effect as quinine; that this action is only exerted on mild forms and those which are treated early, and is scarcely perceptible even in proportionately large doses in severe cases, or in those which have relapsed; that its action is not only weaker than that of quinine, but much less persistent; and lastly, that relapses occur earlier and more frequently than is the case with quinine. Dr. L. Riess also found, that, while some cases in which he tried it were cured at once, others required repeated doses to produce an effect, while in the remainder it was necessary to give quinine before the disease could be subdued. Somewhat similar results were obtained in the out-patient department of the Augusta Hospital at Berlin, under Professor Senator, so that, as far as we can at present judge, salicylic acid is scarcely likely to compete with quinine in intermittent fever, more especially as in the large doses required, it is, as Dr. Hiller proves, more expensive than the latter.

With regard to typhoid fever a considerable number of observations have been made, and especially by Riess (*loc. cit.*), who gave the acid in the neutralized form, as salicylate of soda, in as many as 260 cases. Whenever the temperature rose above 39° C., five grammes of acid were given in one dose in a solution of carbonate of soda. Sometimes the first dose acted only slightly, but the effect was always distinctly marked in the latter doses. In cases of moderate severity only one dose was generally necessary in the twenty-four hours, and from the middle or end of the second week only every thirty-six or forty-eight hours. From the third week onwards, the temperature seldom rose above, 38°, so that, on the average, eight or ten doses in all were enough to keep the temperature almost normal. In spite of the reduction of temperature under the action of the salicylic acid, the frequency of the pulse was completely unaffected, although it often became stronger and less dicrotic. The severer cases, as well as those attended with delirium, were treated with a combination of cold baths with the acid, and it was found that under these circumstances the effect of the baths was more marked and more persistent than if they had been used independently. The treatment appeared to exert a distinct influence in shortening the duration of the disease; the average length of the febrile period in 164 cases, which were treated early, and which ended favorably, being 13.1 days. This may be looked on as a good result, considering the malignant character of the particular epidemic, the total mortality of the 260 cases being 63, or 24.2 per cent. Dr. A. Fisher has reported twenty-three cases of typhoid which were treated with salicylic acid and salicylate of soda in the Dresden Hospital, and, while admitting their antipyretic action, considers that, weight for weight, quinine is six or eight times as powerful as those drugs. Dr. Goltdammer treated fifty-six cases of typhoid fever with the acid, chiefly in the form of salicylate of soda according to Riess' formula. He found that in the first two weeks of the disease the acid was most effective if given in the evening, but that, when the period of morning remissions sets in, it is best given in the morning, and at that time, too, smaller doses of it are required. Of the fifty-six cases seven died; three of them from pneumonia. Dr. Goltdammer did not find, as Riess did, that the duration of the disease was perceptibly shortened by the treatment. Herr A. Nathan has also published a few cases of typhoid fever treated with salicylate of soda, with very favorable results. Contrary to the experience of Riess and Goltdammer, he found that a considerable influence was exerted on the pulse and respirations, both of which diminished in frequency. We have already (*Medical Times and Gazette*, Feb. 5, 1876, p. 144) called attention to the action or salicylic acid in acute rheumatism. Other observers agree with Stricker, that in this disease the effect is almost specific. In fairness it should be stated that Dr. Buss, of Basle, in his original paper —to which we owe our earliest knowledge of the antipyretic action of salicylic acid—distinctly stated (*loc. cit.*, p. 488) that he was inclined to ascribe a specific virtue to the drug in rheumatic fever. Dr. Riess has since made the same observation in fifteen cases which he treated, and in fact four of these only required a single dose, and three others two doses, to produce permanent improvement. The antipyretic effect of the acid exhibits itself in other diseases besides the above mentioned—for instance, in erysipelas, primary pneumonia, and the hectic of phthisis,—though observers are not entirely agreed as to the relative effect in each disease; but we gather from their statements that the depression of temperature, which the drug produces, has a somewhat transitory character. With regard to the form of administration, the observers quoted are divided among themselves, some preferring to give the pure acid, and others the salicylate of soda. Buss prefers the pure acid (salicylic acid two grammes, and sugar one gramme suspended in water), and he states that so little does it disturb the digestion that he has himself taken at one dose, four grammes half an hour before luncheon without being able to discover that his appetite was in the least affected by it. According to him, patients with fever can take larger quantities than healthy persons, and he frequently gave six grammes at a dose suspended like an emulsion in water. On the other hand, Hiller (*loc. cit.*) is much opposed to the use of the pure acid, at any rate in ague, since doses large enough to reduce the temperature decidedly (five to eight grammes) are not only most unpleasant to take, but are liable to produce vomiting as well as a feeling of burning and tickling in the throat, and possibly to set up ulceration in the stomach and intestines; although there was no reason to suspect the latter events in any of Hiller's own cases. In consequence of the insolubility of the acid in cold water (1 part in 300) it is impossible to use a simple aqueous solution to reduce the fever, since several litres would be required to introduce into the system an effective dose, and few patients would consent to be swamped, so to speak, with medicine, even if it were of a more agreeable kind than salicylic acid. The salicylate of soda seems, all things considered, to be the best form for administration, and it is probable that since the physiological action of the latter is equally powerful, it will probably be preferred to salicylic acid in future by most medical men. Both the acid and the soda-salt agree in producing in full dose a sense of oppression in the head, and ringing in the ears. Buss describes a congestive period as occurring in healthy persons after doses of three or four grammes: in this there is a general feeling of warmth over the whole body, accompanied by general perspiration, and diminished acuteness of sight and hearing. This passes off in about a quarter of an hour, and the ringing in the ears succeeds about two hours later, and may last some hours or even a whole day when the dose has been very large. Copious sweats seem to be an almost constant effect of the remedy (Buss, Riess, Ficsher, Goltdammer). Collapse has been noticed in a few cases. Goltdammer especially calls attention to this symptom, and states that in a slight degree it not unfrequently occurs. He mentions a case of acute tuberculosis, in which the temperature was reduced to the normal by a five gramme dose, but in which the collapse was so severe that the patient barely rallied. And in another case of severe typhoid fever, in the fifth week the patient died in the collapse that followed a similar dose. It should be noted, however, that Riess, in a much larger number of cases, only met with this symptom three times. Ulcerations or erosions of the mucous membrane of the digestive tract appear to be of very rare occurrence. They were not found in any of Riess' post-mortems, although carefully looked for, and in two cases of death from intestinal hemorrhage during typhoid fever which Fischer examined, it was proved that the blood came from the typhoid ulcers, and not from any erosions which could have been produced by the salicylic acid. One case is indeed reported by Goltdammer, in which five or six ulcers were found in the stomach of a patient with acute tuberculosis, who had taken in all twelve grammes of the pure acid; but these may possibly be explained by the lowered state of vitality of the patient's tissues, and also by some impurity in the drug used. There seems to be very little doubt that the discrepancies between the statements of good observers with regard to salicylic acid are in the main due to differences in the samples of acid used, and that in the future those who administer it in large doses ought to be extremely careful that they have to do with a really pure acid.—*Med. Times and Gaz.*, April 29, 1876.

EUCALYPTUS IN DROPSIES.

By J. B. Leary, M.D.

As I intend this paper to be the history of a few cases of general dropsy in which Eucalyptus was employed, I will not speak of its botany other than to say that according to Prof. Von Mueller there are one hundred and thirty different species of this tree; and of these I have chosen Eucalyptus Globulus, and the preparation the fluid extract, to be the subject of my paper. It is now nearly four years since I first prescribed Eucalyptus as a specific in gonorrhœa, and it was while treating this disease that I first noticed its remarkable diuretic properties, "the amount of urine passed by some patients while taking it being enormous." I then thought, since this causes such an abnormal activity of the renal organs, would it not be advisable to give it in cases of dropsy, and waited an opportunity to verify my suspicions.

The first case in which I tried it was a gentleman, Mr, R., a resident of Jersey City, who had been told he had acute Bright's Disease, and was given but a few weeks to live. I had but little hope of helping him until I saw him the following week, when his condition was so much improved I was led to continue its use; and in seven weeks had the satisfaction of having him go about and assume his usual avocation (packing-box maker.) This patient, when first seen, was unable to lie in the recumbent posture, his limbs were swollen past the capacity of his pantaloons, and he suffered considerably from dyspnœa. I gave him the fluid extract in doses of 10 minims four times a day. I should state that on examination I found a small quantity of albumen in the urine, but found the liver enlarged and hobnailed, also cardiac insufficiency. First saw this patient December, 1874; up to date has had no return of dropsy; discontinued Eucalyptus six months ago.

Second Case.—Mrs. McC., aged forty-nine, widow, occupation housewife, first noticed she had dropsy in 1872; had been tapped three times before I saw her, December, 1874, and each time two gallons of water were drawn off.

I was called, as I have said, December, 1874, and had to tap to relieve dyspnœa; obtained about a half pail of liquid. After tapping placed her under Eucalyptus and digitalis, as her dropsy was due to cardiac hypertrophy by dilatation; has never had any return of dropsy; still continues taking the remedies first prescribed and enjoys very good health.

Third Case—Mr. Wm. D., aged 36, occupation none. When first seen, Feb. 1875, had but been three months discharged from the army; was then under treatment, and his physician, homœpath, had given him up to die. I refused to give him anything, as I thought he had but a few hours to live; but at his own urgent solicitation to give him something, I prscribed digitalis and left. The following day I found him easier, and added Eucalyptus to his digitalis. For four days he remained in "statu quo," and on the fifth day he remarked his legs, which were very much swollen, did not hurt him, and he thought they were getting smaller That day his left calf was 21 inches in diameter, his right 23; both his thighs measured 33 inches. Fourteen days after his calves were 14 and 16 respectively, his thighs 26. They continued to diminish, until, five weeks after taking his first dose his calves measured, left 10, right 11; he was able to get on his shoes, and was walking about. This patient gave a specific history. Advised him to stop Eucalyptus, but continue digitalis, as he had slight murmurs. Five months after was called to see him again. His condition was not quite so bad, but his testicles were very much enlarged and painful; did not tap them, but again placed him under Eucalyptus, and he got well, and has to continue taking it. Cause of dropsy is his cardiac disease.

Fourth Case.—Mr. J., when first seen, had general anasarca, but not to such a great extent as previous cases. Was placed under Eucalyptus for seven weeks, when he discontinued all medication, being in perfect health, with the exception of cardiac hypertrophy, which does not trouble him.

The fluid extract of Eucalyptus Globulus was given in these cases in doses of ten minims, and never increased, but in some diminished to eight minims, the system at no time tolerating it; and in case three it acts fully as well to-day as did the first dose. I have also given it in a great many cases of passive congestion of the kidneys, and always with benefit. In fact, whenever I need a diuretic I prescribe it, and have yet to see the case in which it failed, if the kidneys were not so far diseased as to be inert and lose their functions.

Patients, while taking this drug, would sometimes complain of a very severe congestive headache, accompanied with tinnitus aurium; that their appetite was much better, though no tonic was prescribed, showing a similarity to quinia, and in some cases a laxative condition of the bowels was produced.

Some may try this remedy and be disappointed in the result, which I think will be owing to the preparation used, or rather by whom prepared. Some may wish to give it in combination with other diuretics, and will find most preparations to be incompatible, owing to the resin which it contains being precipitated. I have found that prepared by the firm of Lazell, Marsch & Gardner, of New York, to be the best, as it does not precipitate with acids or alkalies.—*King's County Med. Society.*

POSITIVISM IN MEDICINE.

Abstract of Remarks before the King's County Medical Society,
by DR. E SEGUIN, of New York.

In pursuance to previous action (for which see Transactions of 1874, '75, '76), the American Medical Association has charged its delegates to urge upon the International Medical Congress of Philadelphia the preparation of a plan of uniformity in physic, applicable in all countries. The uniformity of processes, of technology, of nomenclature, of scales, of measures, of means of record, has immediately preceded, that is to say prepared, the modern progress of sciences, of arts, and of once humble, now justly proud, industries.

Physic has not kept itself estranged from this moveuent, since Louis, Andral, Chomel founded the *Numerical Method of Observation*, which is medical uniformity founded on mathematics.

Consecutively, specialists and pharmaceutists advocated for their respective departments unifornity and mathematical precision. What men like Dumas, Mialhe, Bouchardat, Dunders, Javal conceived to be a necessity for some parts of our art, cannot be a superfluity for its whole.

To American physicians belong the honor of having conceived and snpported this plan in its entirety.

It was submitted in 1873 to the New York Library and Journal Association; to the American Medical Association, meeting at St. Louis; to the British Medical Association, meeting at London; and to the French Association for the Advancement of the Sciences, meeting at Lyons. In 1874 to the American Medical Association, meeting at Detroit; to the British Medical Association, meeting at Norwich; and to the French Association for the Advancement of Sciences, meeting at Lille. In 1875 to the International Medical Association, meeting at Brussels..

In 1876 the American Medical Association, after hearing the reports of its former delegates, charged them again with the mission of advocating, before the International Medical Congress, the necessity of preparing a plan of uniformity in the means, scales and records of the medical observtion.

It is to realize this truly international progress that we want the concourse of your delegates to the Medical Congress.

Conscious of our own incapacity to carry this important measure, we demand for it the help of the solid men of the profession.

Gleanings.

IDIOPATHIC ATROPHY OF THE SKIN (*Boston Medical and Surgical Journal*, June 1, 1876).—Dr. R. W. Taylor communicates an interesting case of this rare affection in a woman forty-five years old. It consisted of groups of round and oval patches of skin, of various sizes, from the diameter of two lines to that of half an inch, situated on the arms, abdomen, and thighs. Their surfaces were very smooth, and had a white glossy appearance, resembling very much mother-of-pearl. They were sharply defined, and very slightly depressed below the general level. The subcutaneous tissue was thinned, and there were no hairs upon them, not even downy ones. On the abdomen a group of these patches, about a dozen in all, presented a marked contrast to the atrophic lines of pregnancy, with which they were interspersed. They were somewhat anæsthetic, which the patient illustratrd by sticking a pin into them, and she also stated that she sometimes experienced a sensation of numbness in them. In addition to the white patches there were others somewhat smaller, of a light-brown color. The surface of the latter was rough, and they closely resembled tinea versicolor. The brown epithelial scales could be easily scraped off from the older and larger ones, leaving patches identical with those above described. It was evident that the brown spots were the earlier manifestations of the disease, being somewhat hyperæsthetic at first, and, after increasing slowly in size for some six months, by impereeptible desquamation they changed into the white atrophied patches. This was the whole process, and no subsequent changes in the affected parts were observed. The disease had existed two years. Dr. Taylor expresses the suspicion that it is a tissue-degeneration due to some obscure faulty innervation.

DIGITALIS-POISONING (*The Journal* May 27, 1876).—Dr. Conrad Kohnhorn had the opportunity of observing two recruits, who, for the purpose of escaping military service, were using digitalis in the form of pills made of the powdered leaves. One of them, who died, took in between four and five weeks two hundred and forty-six grains, the survivor having taken in the same time one hundred and thirty-eight grains.

So rare is the opportunity of observing an instance of digitalis poisoning disassociated from a diseased state, that Dr. Kohnhorn carefully reviews the symptoms, and bases upon them a division of the effects of this poison into a two-fold action, the local and physiological. That the former is irritant the isolated congestions of the mucous membrane of the stomach and bowels with ecchymoses leave, he maintains, but little doubt; and notwithstanding that the most recent work by Rabuteau, 1875, denies such an influence to the drug, yet the proofs by others that digitalis and digitalin inflame the subcutaneous tissues, irritate excoriations and wounds, cause redness of the conjunctivæ, with dilatation of the pupils and disturbance of vision, and excite the Schneiderian membrane to sneezing, tend to support this view.

To this local irritation the following symptoms may be referred: the stomach and bowel catarrh, the coated tongue, foul breath, loss of appetite, heartburn, nausea, vomiting, constipation, and tenderness of the epigastrium.

The second recruit confessed that by the use of two pills four times a day anorexia and nausea were produced on the second day, and vomiting on the third.

The physiological action of digitalis consists in its effect on the heart, in that it prolongs the heart-stroke and *lessens the force* of the heart's contraction, and these results are brought about by its influence on the co-ordinating and musculo-motor nerves of this viscus.

Thus can be explained all the remaining symptoms. By the prolongation and weakening of the heart's action the balance of the circulation is soon disturbed (the parts most distant from the centre feel it most); the law of gravity gains an excessive power over the blood-distribution, and hence the anæmic brain, with its train of inseparable consequences, the headache, vertigo, noises in the ears, dimness of vision, faintness, amounting to actual syncope on assuming the erect position, with, finally, the sudden death when the nerve-paralysis become complete.

Of the narcotic influence assigned to digitalis there has been no evidence whatever in these cases, and this ascribed effect has either originated in error or been confounded with the languidness of syncope.

Treatment of Cystitis by Atropia Enemata (*Virginia Medical Monthly*, June, 1876).—Dr. S. W. Semple reports four cases of acute cystitis, out of a large number which he has successfully treated by a method which is not very commonly employed. It consists in the administration by enema into the rectum of from minims xl to ʒj of a solution of sulphate of atropia (gr. j to water ℥viij), to which is added sufficient carbolic acid to prevent the formation of organic entities and the deposit of the atropia. The dose is added to ℥ss of water for administration, and given twice in twenty-four hours. It uniformly and immediately arrests the frequent strangury and the painful micturition, gradually checks the mucous and sanguineous discharges, and relieves the suprapubic pain with the cystic inflammation. When the urine is alkaline, Mettauer's nitro-muriatic acid is given to correct it; and when it is so acid as to irritate, the acidity is corrected by antacid remedies, of which the bi-carbonate of potassium with subnitrate of bismuth is generally preferred, because of the tonic effect of the bismuth and its very soothing effect on the mucous surfaces of the urinary organs. When constipation exists, which is frequent, it is relieved as occasion requires, generally by the German pulveris glycyrrhizæ compositus, until the bowels begin to act regularly from the effect of the atropia, which generally soon results.

The Vivisection Question in England.—The Royal Commission recently appointed to report upon the subject of vivisection in England, have framed a bill with the following provisions:

1. The experiment must be performed with a view only to the advancement by new discovery of knowledge which will be useful for saving or prolonging human life or alleviating human suffering; and 2, The experiment must be performed in a registered place; and 3, The experiment must be performed by a person holding such license from one of her Majesty's Principles Secretaries of State, in this Act referred to as the Secretary of State, as in this Act mentioned; and 4, The animal must, during the whole of the experiment, be under the influence of some anæsthetic of sufficient power to prevent the animal feeling pain; and 5, The animal must, if the pain is likely to continue after the effect of the anæsthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anæsthetic which has been administered; and 6, The experiment shall not be performed as an illustration of lectures in medical schools, hospital, colleges or elsewhere; and 7, The experiment shall not be performed for the purpose of attaining manual skill The exceptions to be considered are very few, and are those which refer to the impossibility of making an experiment successful and consequently useful without violating the letter of the law, which impossibility is to be certified

to by the operator. The penalty for the first offense is fixed at £50, and for the second at £100, or imprisonment not exceeding three months. The bill is under discussion in the House of Lords, and the general Medical Council has appointed a committee to report upon the subject with a view to oppose legislation if found necessary.

Fibroid Tumor of the Prostate successfully treated by Injection of Iodine (*Virginia Medical Monthly*, June, 1876).—Dr. Melville Taylor reports the case of a man, æt. 26, who, when he first came under obsesvation, had the following history. About nine months previously he had discovered a tumor the size of a chesnut in the perineum, just behind the scrotum ; it was at first movable, but soon became stationary. Its growth was progressive. He had never had any pain, but complained of a sense of weight and dragging in the perineum, and of severe tenesmus. He urinated frequently, slowly, and with much straining, the water at times containing mucus, and being ammoniacal. Lately his urine had been dribbling from him. His walking was greatly interfered with by the tumor between the thighs, and it was for this reason only that he applied for relief.

Exploration of the prostate by rectal touch revealed an abnormal enlargement of this organ. It was hard and firm, presenting to the fingers four different segments. No increased sensibility. Upon the passage of the catheter, an obstruction was met with at the prostatic portion of the urethra ; but this, after some manipulation and not a little pain to the patient, was overcome, and the instrument slipped into the bladder, when about ℥xx of fetid urine was passed, although he had urinated previous to its passage. The catheter caused some pain when impinged against the walls of the bladder.

The diagnosis of fibroid being made after a few other examinations, treatment was commenced by the injection of iodine into the tumor, fifteen drops of the tincture being used at intervals of several days. There was some little irritation at first, but this soon subsided, and the final result was a complete cure, the prostate decreasing from the size of a base ball to its normal dimensions.

Pills for Obstinate Neuralgia.—The *Bordeaux Medical* gives the following formula for obstinate neuralgia, especially ileo-lumbar neuralgia : Valerianate of ammonia and quinine, each thirty grains. Make into twenty pills, and take from two to ten of them each day, increasing one pill per diem. After taking these pills for ten days suspend their use for five days.—*The Doctor.*

Chloroform in the Surgery of Infants.—Dr. Bergeron, of Paris, (*London Obstetrical Journal*), from his personal experience upon this subject concludes that

1. Chloroform in the infant is endowed with an almost absolute harmlessness.

2. The child, not having come to the age of reason, nor feeling any moral emotion, suffers from no apprehension of the dangers to which it may be exposed, nor experiences the apnœa which produces so much terror, and is, the author imagines, a most important cause of death supervening suddenly during the administration of chloroform.

3. Chloroform may be administered to the infant from the first day of its birth.—*Amer. Med. Weekly.*

Septicæmia from an Operation.—Dr. Wilson, a surgeon of Devenport (Eng.) recently died from the effects of blood-poisoning, caused by a wound received during an operation. His elder brother, it is stated, died from a precisely similar cause in the same town three years ago.

Citric Acid in the Treatment of Cancer.—In *The British Medgical Journl* of November 27th, John H. Wood, M. D., reports a case the cancer of the œsophagus and cardiac orifice of the stomach, in which the symptoms were, for a time, very much relieved by the use of citric acid in large doses, combining it, on Dr. Sidney Ringer's plan, with wine of ipecac in minim doses.

Pruritus Treated with Vinegar. — Dr. Thackeray, of Dacota, writes to the *Medical News* that he treats the pruritus formicans of pregnancy with cider vinegar, topically applied, and that he has never failed to cure with it. He procured the prescription from the late Prof. Henry S. Dickson.

BRITISH MEDICAL ASSOCIATION.

The annual gatherings of the British Medical Association commenced on Tuesday, August 5, at Sheffield, when 200 members of the association had arrived. In the morning a service was held in the Parish Church, when the Rev. Dr. Gattv preached, and in the afternoon there were meetings of the Committee and Council of the Association. In the evening the President (Dr. de Bartolome), entertained a large number of the profession at dinner at the chief hotel in the town. At night a general meeting was held at the Cutlers' Hall, which was crowded. Dr. de Bartolome, as president, delivered an opening address, in which he dealt with subjects of almost exclusively local interest. He called atteution to the natural wealth and industrial pursuits of the neighborhood, to the changes which had occurred in its staple manufacturers, in the social condition of its inhabitants, and in the type of disease observable among them. In conclusion he said he would allude to a subject upon which he hoped they would express their opinion calmly, emphatically, fearlessly, and in unmistakeable terms. He meant the appointment and removal of medical officers of health. No man who had had an opportunity of observing and comparing what a town or district was before the appointment of medical officers of health and what it had become since, could have failed to be struck with the improvement which, generally speaking, had accompanied the change. He did not mean to say that all appoinments had been equally judicious, and that there had been no instances of failure. The only cause for surprise was that so much had been accomplished in so short a time. If only these medical officers of health were rightly chosen and placed in independent positions they were destined to change before long the character of disease throughout the whole nation, and save future generations from it to a great extent. No officer of health, however, ought to be appointed or dismissed without the concurrence of the Local Government Board. It would be better if the Board would take the whole business into its own hands. Medical officers might then look forward to promotion and reward, and they would feel that their bread was protected against the arbitrary and irresponsible self-sufficiency of certain Jacks in brief authority. The annual report, which showed a balance in hand of £3,000, was adopted.

The sittings of the Association were resumed on Wednesday. The second general meeting was held at the Cutlers' Hall in the morning, under the presidency of Dr. de Bartolome. There was a large attendance.

Dr. Sieveking, (London,) Physician Extraordinary to the Queen, delivered an address on medicine. In introducing his subject, he said as a profession they had enjoyed but little of the fostering care of parliaments, of corporations, of universities, and what they had done for them had rarely been owing to their spontaneous action. He believed there was a great future before them, and they were entering upon a field of wider duties, of greater service to their fellow men, of a nearer approach to the fulfilment of their highest destiny as members of a Christian common-wealth. Their great leaders had universally looked to the improved education of the profession, the diffusion of its benefits among their countrymen, the prevention of disease, and the physical and moral advancement of the nation as their guiding principles. They had not hesitated to make personal and corporate sacrifices where the good of the community appeared to demand them. Those who had a personal experience of things as they were thirty years ago, could scarcely hesitate to admit that in all aspects in which their profession could be regarded in relation to their fellow-citizens, it occupied a better position now than then. He hoped the time was not far distant when some of the most distinguished, zealous, and far sighted of their brethren might be called to a higher position in our sovereign's councils than had yet been the case, in order that individuals who were alone qualified to advise might publicly exercise a power and a responsibility which should develop, extend, and strengthen the health of a nation. Whether it would be wise to seek the establishment of a distinct ministry of health and medicine; whether they should try to secure for the best men among them seats on Her Majesty's Privy Council, or under what other forms the medical interests of the country could be best administered, it would be out of place to discuss there; but of this he felt assured, that the time would soon come when greater power must be put in the hands of physicians, in order to secure the most perfect development of hygienic measures for the country. It appeared to him especially the function of an association like theirs to spread the knowledge of scientific results, and to secure their application to society, and to see that the particular work of the philosophic physician was duly appreciated by those who rule our commonwealth. The Asociation, if it wished to deserve well of mankind, was bound to secure a more public recognition by the State of the aims of the profession. Could they not do something to secure a better education at large and to cause a gradual and peaceful revolution in the present system? To do so, however, they must go not so much to the primary schools as to those fountain heads of English education—the Universities. He maintained that all members of learned professions ought to enjoy a university training, and that a country whose Universities did not allow of their acquiring the entire theoretic part of their respective professions within their walls neglected the first duty for which they were called into existence. If scientific training of medical students could be given in the Universities it would be infinitely better than that given in the small self supporting academies of medicine now scattered over the country. If the present University arrangements were insufficient to provide for the two thousand medical students who annually inscribed their names on the registers of the medical schools, what was there to prevent the establishment of Universities in towns willing to advance the growth of the sciences, and possessed of fewer of those sanitary objections which marred the beauties of Oxford and Cambridge? Referring to the subject of vivisection he said the non-medical community had thought it right and honest to hurl at his profession all the approbria of language from an entire misapprehension of the means, the scope, and object of their researches. Our legislators would rival the enemies of Galileo. If the detractors of the profession had their way, the progress of science and humanity might even now receive a check that would retard the advancement of civilization. Nothing but a free interchange of thought and opinion between the most educated of the rising generation could prevent the recurrence of a similar bathos. The practical question remained whether our present social constitution admitted of the realization of his plan of extended medical studies in Universities. Did it not mainly resolve itself into a question of pecuniary means? The present extravagent cost of residence at Oxford and Cambridge was shown not to be a necessity; but what they had to consider was not whether it was possible for Oxford or Cambridge to receive medical students, but whether it was right and proper that a future generation of medical men should receive their scientific training at a University or not If it was thought that they should, then they should make their wishes respectfully known to the authorities of the old Universities; if not, the alternative of a new foundation in a southern or northern county town would still remain. He thought they would more speedily gain their ends if the Association resolved that a new University, in which the professional element should be paramount, was necessary, and proceeded to take such steps as would realize so great an end. He had no doubt that the ways and means would be forthcoming. The doctor resumed his seat amidst loud applause.

In the afternoon the work of the various sections commenced. In none of them, however, was the attendance very numerous, a large number of the members having made their way to the works of Thomas Firth & Sons, to see the process of forging a large gun. The proceedings at the Public Medicine Section were, of course, the most interesting, inasmuch as the papers read dealt with subjects of more or less general interest. This section was under the presidency of Dr. J. B. Russell, of Glasgow.

Dr. Rogers, formerly President of the Poor Law Medical Officers' Association, read a paper on "the Chaos in Central and Local Sanitary Administration." Dr. Griffiths, medical officer of health at Sheffield, read a paper on "Impediments to progress of Sanitation," and Dr. J. Thompson (Leamington) read one on "the Relation of General Medical Practitioners to the Sanitary Authority," in the course of which he contended that occupiers of houses or the legal guardian of the sick person should be legally liable to give information of infectious diseases, and that this duty should not fall upon ordinary medical practitioners. Dr. W. Squire advocated the registration of disease in a paper on this subject, and Dr. Diver (Kenley, Surrey) read a paper. "On the desirability and the importance of a more complete recognition of our profession by the State." His paper referred more especially to the present control of medical officers by Boards of Guardians, and this connection between the two he emphatically condemned. He urged that after appointment by the Guardians, medical officers in certain districts should be under the jurisdiction of a local council, the members of which should consist of magistrates and medical men, these councils to be subordinate to a Chief Council in Lendon.

Dr. Chadwick (Tunbridge-wells) presided in the Medicine Section; Mr. Jonathan Hutchinson in the Surgery Section; and Dr. Lambe Atthill in the Section devoted to obstetrics. The papers read at these were of a purely technical character.

In the evening Dr. de Bartolome, the President of the Association, gave a *soiree* in Weston-Park. It was attended by upwards of a thousand ladies and gentleman.

AMERICAN MEDICAL ASSOCIATION.

Section of State Medicine and Public Hygiene.

CONTAMINATION OF DRINKING WATER AND MILK.

This Section met on Tuesday afternoon, June 6th, Chairman, Dr. R. C. Kedzie, of Michigan; Secretary, Dr. Ezra M. Hunt, of New Jersey. The chairman read a report, and proposed to the Association the consideration of the question, whether a subject should be annually assigned to the Section, and if so, that the Section should choose the subject each year. Among other matters, the importance of State Boards was argued, and their value illustrated by the benefits of a stringent inspection law as to illuminating oils in his own State, etc. He then offered a report on the waters of Michigan, public water-works, contamination of water by graveyards and fæcal matter, the powers of the soil as a filter, milk as a vehicle of disease, as effected by the quality of the water, etc. He also read a paper on the same subject by Dr. Evarts, of Minnesota.

Dr. Henry Hartshorne was particularly struck with the statements these papers contained in regard to milk and its agency in the production of disease. He did not think that disease could be transmitted through a mile of soil, as has been stated; there might be other and local causes to produce it. The soil would be more likely to act as a filter, and thus detain the germs of disease.

Dr. Bell did not think with Dr. H. that the case cited destroyed the germ theory, for the germs, which are invisible, may not always be thoroughly filtered, even in passing through so great a distance. In regard to milk, the richest specimen of it may be diseased. A swill-fed cow will give milk richer in oil globules than one fed on wholesome food; yet medical practitioners know that it is not wholesome. He alluded to the effect of severe shock, over-heating, etc., on the milk. Sanitary supervision of milk is incomplete, unless it extends beyond the physical condition of the cow, and includes her keeping and food as well, and the place in which the milk is kept.

Dr. Kedzie also argued that, germs could not be perfectly separated by filtration; fine foreign particles could not be prevented from passing through.

Dr. Jones, of Illinois, thought that boards of health were the only bodies that could grasp the broad subject of the milk supply. Even when a child is restricted to the milk of an apparently healthy cow, there may be something injurious to the child, as in a case cited, in which a child's nutrition suffered greatly, and was only restored by the death of the cow. The great mortality among childron was largely due to the diseased condition of the milk.

On motion, the papers were referred for publication.

PREVENTION OF MALARIAL FEVERS.

Dr. Joseph Wilson U. S. Navy, then presented a paper on "Facts and Figures as to our Means of Preventing Malarial Fevers." He illustrated, from naval experience chiefly, his view that malaria never acts except at night. He inquired how far malaria could be carried, depending on its amount and other favorable or unfavorable conditions. The planting of pine-trees was good as a preventive

Dr. Bell had not been able to say as emphatically as Dr. Wilson, that it was only at night that the malarial influence is potent enough to be dangerous, although he knew of no instance to constitute an exception to the theory. The same was true of yellow fever, so far as his observation extended. He alluded to the importance in the navy of keeping the proper distance from the shore, say a mile or two, there being no case on record where any person within two miles of the shore has ever contracted any disease peculiar to a locality, the water absorbing or interrupting the communication of the poison. In instances cited by him from naval experience, prophylactics were not used. At Vera Cruz he advised the use of whiskey, and hung up blankets to break the current of air. Bars were placed to come down over their hammocks, while sleeping on deck.

Dr. Hartshorne thought it safe to remain on shore in malarious districts, not only while the sun was far above the horizon, but even as late as sundown.

Dr. Wilson stated that at Charleston, where his early experience was derived, children would go through a severe storm to reach their homes by day, rather than through a malarious night air. The Chinese, even in the dangerous rice swamps of China, are almost proof against malaria, because they take good care to push off in their scrows to a broad part of the channel before night. He considered half a mile from shore the extreme limit that malaria can be conveyed. In the navy they used prophylactics, quinine in large doses, and mosquito bars

The paper was on motion referred to the Committee on Publication.

CLIMATOLOGY OF MINNESOTA.

Dr. Staples read a paper on the second day, on the Climatology of Minnesota as related to Pulmonary Diseases, which was similarly referred. A report on the Water Supply of Virginia, by Professor Cabell, was also referred.

Microscopy.

REPLY TO PROF. J. EDWARD SMITH'S CRITICISMS.

By S. P. Cutler, M. D., Memphis, Tennessee.

Although Prof. Smith is very candid in his conclusions, still I do not think he quite understands all the points given in my notes on Mr. Papillon's paper.

Prof. S. says: "Every one is aware that a solution of proto-sulphate of iron added to a solution of nitrate of silver will cause the silver to be precipitated, and it is entirely owing to this law that the photographer is enabled to develope the image on his manipulated plate." Let us see. By adding the two solutions together a dark cloud forms which soon subsides as a light brown precipitate. We will suppose the hyposulphite, or hyposulphate of silver, and a corresponding hyponitrite of iron in solution. In this chemical change all the nitrate of silver is not precipitated, for by adding common salt or muriatic acid to the clear supernatent solution there is thrown down white precipitate of chloride of silver.

It is the alkaline solution of the hyposulphite of silver that is used in developing pictures, which is a very delicate and sensitive agent when manipulated with solar light to produce certain decompositions and changes.

In the microscopic experiments given, the tinctures made use of are among the feeblest of chemical combinations. Any of the gums insoluble in water, but soluble in alcohol, are soluble from the smallest quantity up to complete saturation, varying somewhat with the different gums. The atoms are supposed to be separated from one another by the following known laws, which govern all degrees of solubility.

(1) Any solid whose affinity for a liquid is less than half the affinity of the solid atoms for themselves, then neither wetting nor solution takes place—as tallow and water, sulphur and water, and other substances; also glass and mercury, iron and mercury.

(2) Any solid whose affinity for a liquid is more than one-half, and less than the whole affinity of the solid atoms for one another, then wetting takes place but no solution (this law also governs capillary attraction and osmosis)—as water and dry wood, water and glass, and most of the metals and many other substances; mercury and zinc, mercury and gold, mercury and tin and silver foil.

(3) Any solid whose affinity for a liquid is greater than the entire affinity of the solid atoms for themselves, then complete solution takes place—as sugar and water, salt and water, silver and nitric acid, iron and sulphuric acid, zinc and many other solids; also mercury and gold leaf, tin foil and mercury, are a few examples; but more to the point are our gums and alcohol. The above law governs all chemical changes between solids and liquids, if not liquids themselves: these are the chemical data we have to go by.

Now let us take one drop of any of the tinctures under contemplation and put it into a pint of water and shake well. The drop of alcohol will unite with the water and the particles of dust of the gum will be precipitated through the water as naked bodies. Again, take, say, equal quantities of tincture and water mix and shake well; all the alcohol will leave the gum and unite with the water, and all the gum dust will be precipitated through the water, making it a milky white. Now put a drop of either specimen under the instrument. In the one myriads of floating particles will be visible with a 1-5th objective, in the other only a few scattering ones will be visible, the fineness and coarsness being the same in both specimens of the dust.

If we use alcohol 76 per cent, not as much of gum will be dissolved as if we use 100 per cent alcohol; heat having but little to do in the case. Let us examine specimens from milky whiteness all the way to sky blue by diluting the turbid liquid, and we will see precisely the same ranges of sizes of dust atoms, varying only in numbers.

Since reading Prof. Smith's paper I have repeated all the experiments, using different objectives, with complete success. I also again had recourse to the veritable 1-16th French triplet, old style, this time with success, *i. e.* the larger dust particles were distinctly visible not the smallest sizes. Why I failed heretofore must have been owing to using too thick covering glasses. I now state, that I believe that dust atoms may be seen with objectives ranging from 1-4th up to 1-25th inch; if of the best quality, at least the coarser ones with the higher power. I do not believe they can be seen with the highest powers as before stated. Here I may bring in my French 1-16th as competitor with the 1-50th or 1-75th inch. I will further state, that in all organic infusions, both animal and vegetable, the blood and animal secretions, will give apparently the same results, with no discoverable difference. Also all fine dust, either of metals, minerals, oxides, and salts of every known kind, when made fine enough, show the same result as precipitates. They are always round, having a refractive center. The most puzzling thing about them is their molecular motions, when seen floating in fluids.

None of the pigments in solution show the dust—they must be precipitated to be seen. Gamboge makes the best specimen of anything. In the gums under consideration we have ternary organic compounds, also in the alcohol we use—composed of carbon, hydrogen, and oxygen. In our tinctures the properties of the gums are not actually changed; they are about the same thing—so with the alcohol, otherwise all our medicinal tinctures would be worthless. These are well known facts. In Prof. Smith's photographic experiments he uses mineral binary compounds, and the changes taking place are the most profound of any known—absolute change in properties takes place.

In conclusion, I advise Messrs. Tyndall, Huxley and Bruke, or any one else to repeat their own experiments and use the objectives named above. They will see precisely what has been stated.

☞ In the August No., '76, of *Science Monthly*, page 445, Rev. W. H. Dollenger, on the subject of spontaneous generation, says: "Let clean gum-mastic be dissolved in alcohol and drop it into water, the mastic is precipitated; gradually dilute and a point is reached to bright sky blue." The writer examined this liquid with 1-50th inch Powell & Leland's best, and failed to see anything. He repeated Mr. Tyndall's experiment near enough for all practical purposes. Let the gentleman repeat the same experiment and use a 1-5th inch and he will see the gum dust; they are within moderate microscopic range. These atoms measure just about the same as the spectral waves of light—one cubic line of the smallest will number about 120 billions, and of the coarsest of them, one billion.

NOTE.—Prof. S. complains that not more than one negative picture in forty approaches perfection. Still in the negatives no doubt the original would be recognized, at least would not be mistaken for a horse.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

A regular meeting of the San Francisco Microscopical Society was held on Thursday evening, President William Ashburner in the chair.

Quite an extensive addition to the library by the receipt of volumes ordered by the Trustees some weeks since, in the way of Frie's "Systema Mycologicum," three volumes and index; "Elenchus Fungorum," two volumes; "Epicrisis," "Novæ Symbolæ Mycologicæ," one volume each; also, a treatise on Scandinavian flora, and European lichens.

Five packages came with the volumes, filled with hundreds of varieties of fungi, which were classified and mounted years ago, and will not doubt prove useful in the study of mycology on this coast.

Letters were read by the Secretary from Prof. J. Edwards Smith, of Ashtabula, Ohio; J. F. Stidham, Columbus, Ohio; Rev. A. B. Hervey, Troy, N. Y., and Dr. J. A. Thacker, of Cincinnati, Ohio.

The President was authorized to call the members together for the purpose of meeting Mr. Vogel, the eminent photographer, now in the city, at such time as would be found convenient to that gentleman.

Mr. H. G. Hanks presented a very beautiful slide, being a section of chlorite in quartz, which, viewed with the spot lens and an inch and a half objective, was a most interesting object. The convolutions and peculiar crystaline form of the greenish chlorite imbedded in the transparent quartz, were particularly noted.

The Secretary announced the receipt of the following periodicals: *Monthly Microscopical Journal*, *American Naturalist*, CINCINNATI MEDICAL NEWS, *American Journal of Microscopy* and *Nature*; after which a paper, sent to the Society through the hands of Mr. J. P. Moore, was read by that gentleman, who supplemented the same by exhibiting the spores of the fungus and also a twig showing the manner in which the tree on which it is found is injured by the parasitic growth.

DR. HARKNESS' PAPER.

C. Mason Kinne, Esq., Secretary San Francisco Microscopical Society:

DEAR SIR: I have to-day forwarded for the Society's Cabinet a specimen of Peridermium, a fungus which is attacking the small pine trees in the vicinity of Colfax, at which point Mr. Moore and myself discovered it on the 26th of May last. On the 20th inst., I again visited the locality for the purpose of noting the changes which had occurred during the interval. The fungus belongs to the Genus Peridermium order, Æcidacie, and appears both on the limbs and trunks of young trees of the variety *Pinus Ponderosa*, generally forming a complete circle around the tree, its sporidia appearing as a zone of bright orange yellow.

The spores first germinate beneath the cuticle, which it destroys. Owing to the irritation of this presence, an abnormal thickness of the cambium is produced, which, in turn, gives place to an excessive growth of woody fibre.

This process being repeated from time to time, a large bulbous expansion is soon formed, so that, as often occurs, a stem of but an inch in diameter is enlarged to that of four or five.

Above this bulb the further development of the stem is retarded or arrested altogether, its place being supplied by a dense tuft of minute branches.

As no reference to this fungus is found in any of the books at my command, I am inclined to the belief that it is a new variety.

Yesterday I received a letter from Prof. W. G. Furlow, of Cambridge, Mass., in which he says: "I send you a specimen of Peridermium, which is attacking the *Pinus Ponderosa* of this vicinity. Do you find it in California?"

As the specimen sent by the Professor agrees in every essential particular with the one sent to the Society, it would appear that the fungus is attacking the forests in the Eastern as well as in the Western portion of the United States.

But one other variety of *Peridermium* is yet known upon this coast, and that is found upon the foliage of the *Pinus Insignis*, growing in the Golden Gate Park, San Francisco, in the month of January last. This variety we then indentified as the *P-Pini*, which so far has not produced any special damage.

In the vicinity of Colfax the fungus appears to be limited to an area of but a few acres in extent. Within that area, however, it is destroying the young growth, and should it become generally disseminated, it bids fair to do great harm to the timber trees of this coast. H. W. HARKNESS.

Sacramento, June 29, 1876.

A motion by Mr. J. P. Moore, that the fungus be named by the Society *Peridermium Harknessii*, was carried unanimously, after which the meeting adjourned.

DUNKIRK (N. Y.) MICROSCOPICAL SOCIETY.—The annual election of officers of this Society was held at the Society rooms, June 9th, 1876, and resulted in the re-election of Dr. Geo. E. Blackham as President, and the election of Dr. C. P. Alling, Secretary and Treasurer.

It has decided to postpone the regular monthly meetings during the warm season. C. P. ALLING, Secretary, PHOTOGRAPH OF AMPHIPLEURA PELLUCIDA. — We are indebted to Charles Jewett, M. D., of Brooklyn, New York, for a couple of photographs of *Am. pellucida*, the finest, we believe, we have ever seen. The lens employed was a 1-5th by Tolles, made in 1872, with an angular aperture at uncovered of 115°. The number of striæ with one is 94500 to the inch, with the other 95000 to the inch. Zentmayer's amplifier, B eyepiece, and sunlight were made use of.

The photographs give evidence of a high degree of manipulative skill.

Correspondence.

Mackinac, Mich., July 24, 1876.

PROF. THACKER:

The island on which this village is located is situated within the waters of Lake Huron, and about six miles east of the shortest line across the strait bearing the same name. Geography has placed it at about 45½° north latitude, and 7½° west longitude from Washington. In shape it is oblong, the long diameter being about three miles, the short one from one and a half to two miles. Its surface is quite irregular. In the middle a ridge running with the long diameter looms up at its highest point 318 feet above the lake. The shore for the most part is rugged, the bluffs, almost perpendicular, rise in some places to the height of 140 feet, yet there are places where carriages can be driven to the water. It is largely limestone in its formation. The soil, which is very shallow, supports a thickly set forest of trees of maple, beach, birch, iron-wood, cedar, pine, etc., more than nine-tenths of which have a diameter of less than eight inches.

Since 1780 this island has been occupied as a military post, and that portion of it (about three-fourths), yet unsold, has been declared by law a national park, and congress is annually making small appropriations for its improvement

The town is situated on the south-eastern shore at the front of the bluff, upon the brow of which stands the fort. It extends near a mile around the beach, and contains about 600 inhabitants. It has three churches, five or six hotels, about one hundred dwelling houses, besides stores, groceries, post office, court house and jail. Only a few of the buildings are of modern architecture, and the most of these are sadly wanting in the article of paint.

Mackinac has long been celebrated for its bracing atmosphere and mild temperature during the hot season. I can very cheerfully indorse the following declarations of Hon. Horace Mann, under date of August 7, 1876. He says: "It is a fortnight to-day since we arrived, and such paradisiacal weather as we have had; just warm enough to be cold, and just cold enough to be warm." And the day previous he writes, I never breathed such air before, and this must be some that was clear out of Eden, and did not get cursed. I sleep every night under sheet, blanket and coverlet, and no day is too warm for smart walking." "The island of Mackinac is," says Dr. Drake, "the most important summer residence to which we can direct the attention of the infirm and the fashionable. True, it has no mineral springs, but living stream of pure water, cooled down to the temperature of 44°, gushing from its limerock precipices, and an atmosphere, never sultry or malarious, supercedes all necessity for nauseating solutions of iron, sulphur and epsom salts.

A trip to Mackinac, which a few years ago was the journy of many days, is now completed in less than thirty hours by way of the Cincinnati, Hamilton and Richmond, Richmond, Fort Wayne and Grand Rapids Railroads to Petoskey, being 480 miles north of Jones' Station. At Petoskey a steamer is in waiting to convey passengers to the island. The managers of this route deserve great praise for the ample and complete arrangements for comfort and pleasure. The road track is in good condition. Each through train is provided with a sleeping coach, containing chairs and state rooms, and is run on time, which affords opportunity to notice the great diversity of scenery, made up of cultivated farms, of villages, towns and cities, more or less beautiful, alternating with heavy timber lands, small lakes and rivers, and then the mighty forest in appearance almost as wild as when the Ottawas and Ojibaways roamed unmolested from lake to lake. The trip from Petoskey is most delightful to one unused to lake travel. As soon as you are on the good steamer Music, away she steams directly for the island. Though small she plows her way through the great blue waves, proud as lucifer and majestic as a queen. To the right the main land can be seen from all points on the route, and the green mantled forest, unbroken save here and there by a hut, gives to the great bay, the lake, and the strait a fringing that is most beautiful, while on the left you see here and there an island, which in the distance appear to be great plantations, with the fencing in a dilapidated condition. Passing these you see far away to the north the northern peninsula, which you approach until it is quite visible. You have here on the right a good view of the remains of old Mackinac, around which cluster so many memories of treachery, blood and carnage. You are now passing through the strait headed for Mackinac, with the island in full view, feeling that you are safe and away from the region of miasms, ague-cakes, hay-fevers, blue devils and duns.

All reasonable demands for body and mind are provided for on this island. We are at the Astor House, than which perhaps no hotel on the island affords more home-like or better accommodations for those who desire to stay a few weeks, or depart the next day. In this connection the justly celebrated Mackinac white fish deserves notice, and I very cheerfully add my testimony in its favor. Its flesh, organized and imbued with life in the cold and clear waters of the lake, is solid, sweet and juicy, and as served to us by Frauh, our faithful table servant, is a luxury in which thrice every day one delights to indulge, and without fear of surfeit. The next day after we arrived, Mr. J. B. Cornel, a newly made friend, presented me with a card from the Park Club of Mackinac, inviting me to accept the privileges of their reading rooms. Here I find on file the latest Cincinnati, Chicago, New York, and other papers. I am sure after I go away from here I shall never think of Mackinac without calling to mind the Park Club, the Astor House, Frauh and the white fish.

During the last two weeks I have met many readers of the MEDICAL NEWS, who speak of it in great praise. I find that my letters in it to Judge Hagans on the management of the Cincinnati Hospital, have been well understood, and in consequence they have given to him considerably notoriety. "Mr. A.," said a gentleman in my hearing, "is an individual of clever attainments and honest instincts. A few years ago he joined a political ring, and in a short time afterwards he became a servant to the more unscrupulous part of it. By virtue of the service rendered the ring, he was forced to surrender his individuality, ignore the plainer demands of justice, betray his friends not members of the ring. In short, he is the Judge Hagans of Grand Rapids." I mention this merely to indicate the difference between the attention given to articles published in the political gazettes and in the medical journals. Here, of the more than two thousand readers of the

NEWS, nine-tenths of them measure Judge Hagans quite as accurately as our Grand Rapids' friend. I must here express my regret that the judge is classed with, and remembered as, the companion and servant of tricksters, but that it is so is no fault of mine. It is all attributable to his own perversity. I shall endeavor to address the judge again through the NEWS upon my return home. R. C. S. REED.

Book Notices.

A MANUAL OF PERCUSSION AND AUSCULTATION; of the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism. By AUSTIN FLINT, M. D., Prof. of Principles and Practice of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, etc. 12 mo. pp. 251.

This will be found a very valuable work to all engaged in the study of Physical Diagnosis, and to such we would cordially recommend it. The work contains the substance of the lessons which the author has for many years given, in connection with practical instruction in percussion and auscultation, to private classes composed of medical students and practitioners.

It has been the effort to simplify the subject, avoiding all needless refinements. The very high standing of Prof. Flint as a specialist in diseases of the lungs and heart is a guarantee that the work is one of superior merit.

Although small it contains all needful information in sufficient detail. Prof. Flint is a plain writer and easily understood.

A MANUAL OF MIDWIFERY. By ALFRED MEADOWS, M. D., London, F. R. C. P., Physician Accoucheur to St. Mary's Hospital. Second American from the Third London Edition, revised and enlarged, with 145 illustrations. 8vo. pp. 490. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. 1876.

This is one of the most convenient works on midwifery for students and physicians with which we are acquainted. While the main plan of the work in this edition remains the same, much new matter has been added, chiefly of a practical character, though some additions have also been made to the chapters on anatomy and physiology of the parts concerned.

The *London Lancet* says of the work, as presented in the present edition, and we heartily concur with it: "We can cordially recommend this manual as accurate and practical, and as containing in a small compass a large amount of the kind of information suitable alike to the student and practitioner."

A TREATISE ON THE SCIENEC AND PRACTICE OF MIDWIFERY. By W. S. PLAYFAIR, M. D., F. R. C. P., Professor of Obstetric Medicine in King's College etc., etc. With two plates, and 166 illustrations on wood. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. 8vo. pp. 565

The author states in his preface that his "object has been to place in the hands of his readers an epitome of the science and practice of midwifery, which embodies all recent advances. He is aware that in certain important points he has recommended practice which not long ago would have been considered heterodox in the extreme, and which even now will not meet with general approval. He has, however, the satisfaction of knowing that he has only done so after very deliberate reflection, and with the profound conviction that such changes are right, and that they will stand the test of experience.

On page 259 the author recommends the method of Dr. Goodell, of Philadelphia, of relaxing the perineum, viz : that one or two fingers of the left hand should be inserted into the rectum, by which the perineum should be hooked up and pulled forward over the head, so as to restrain its progress, or if, when the head is distending the perineum greatly, the thumb and forefinger of the right hand are placed along its sides, it can be pushed gently forwards over the head at the height of the pain, while the tips of the fingers may at the same time press upon the advancing vertex, so as to retard its progress if advisable. He does not regard it either needful or advisable to sit by the patient with the hand applied to the perineum for hours, as is often practiced.

The author has endeavored to dwell especially on the practical part of obstetrics, and, in this respect, the work will be found a useful guide in this most anxious and responsible branch of the profession.

We commend it to students and practitioners.

LECTURES ON FEVER: Delivered in the Theatre of the Meath Hospital and County of Dublin Infirmary. By WILLIAM STOKES, M. D., D. C. L. OXON., F. R. S., Regius Prof. of Physic in the University of Dublin, etc. Edited by JOHN WILLIAM MOORE, M. D., F. K. Q. C. P. Philadelphia : Henry C. Lea. Cincinnati : R. Clarke & Co. 8vo. pp. 264.

The lectures of so distinguished a physician as Dr. Stokes will undoubtedly be well received by the profession. He has been a close student and accurate observer of disease, and his experience therefore is of the greatest value.

There is nothing in these Lectures relating to histological research, the chemico-vital states of the fluids or organs, or the analysis of the laws of crisis. But we have discussed contagion, causes of fever, varieties, points of resemblance, division into essential and symptomatic, local changes, secondary bronchial affections, pneumonic complications, the heart, intestinal complications, secondary nervous or cerebral complications, treatment, etc.

The Treatment occupies the whole of the second part, and engages nine chapters.

We think that practitioners every where in this country will seek to read and study the work.

A SERIES OF AMERICAN CLINICAL LECTURES. Edited by E. C. SEGUIN, M. D. Vol. II. No. 5.

Diagnosis of those diseases of the eye which can be seen without the ophthalmoscope. By HENRY C. NOYES, M. D. Price 40 cents.

This makes the Seventeenth number of this valuable series of lectures by distinguished physicians. Subscriptions $3.50 a year. Published by G. P. Putnam's Sons, New York.

ALUMNAL ASSOCIATION.

At a meeting of the Centennial Graduating Class of the Cincinnati Col-
theatre on the 14th of June, 1876, for the purpose of forming an Alumnal
lege of Medicine and Surgery (spring session), held in the college amphi-
Association, which had not heretofore existed among the graduates of the
college, the following resolutions were made:

Moved by H. B. Lowery, seconded by H. T. Dunbar, that D. P. McLachlan act as Chairman of the meeting—carried.

Moved by J. A. Williams, seconded by W. Randall, that A. R. McKellar act as Secretary—carried.

H. B. Lowery laid the following resolution before the meeting: "Whereas there exists at the present time no organized alumnal association of this college; and whereas it is considered advisable that the "Centennial Class" should form a society for the purpose of exchanging fraternal greetings from time to time: Therefore, be it resolved, that this class do now proceed to organize and to elect permanent officers of the class, said officers to be a President, three Vice-presidents, Secretary, Corresponding Secretary, Historian, Treasurer, and also to arrange the time and place for a reunion." After fully discussing the resolution it was unanimously agreed to by the class.

The following officers were elected:

President, D. P. McLachlan, Michigan; 1st Vice-president, H. T. Dunbar, Ohio; 2nd Vice-president, A. J. Pressey, Michigan; 3rd Vice-president, G. A. Gustine, New York; Secretary, A. R. McKellar, Canada; Corresponding Secretary, A. B. Campbell, Canada; Historian, F. A. Rose, Ohio; Treasurer, J. J. Jones, Ohio.

After the election of officers it was moved by T. A. Hull, seconded by J. G. Nugent, that the alumi now formed hold its next meeting on the evening of the commencement of the winter session of 1881. And that a cordial invitation be now extended to the past graduates, and to such as shall graduate up to the appointed meeting to greet and welcome such, and bestow honor and praise to our much endeared alma mater.

A. R. McKellar, Secretary.

Editorial.

H Mahler, Office De Publicite D'Outre—Mer, 16 rue de la Grange—Bateliere, Paris, is the exclusive agent of the Medical News for France. He will receive subscriptions and advertisements and will promptly attend to any other business of the journal.

Personal.—Dr. J. E. Davison has settled at Unity, Pa.; Dr. H. T. Dunbar at Little Valley, N. Y.; Dr. E. S. Meals is now located at McKnightstown, Pa.; Dr. J. Norman Dixon should be addressed at Springfield, Ill.; Dr. W. Randall at Emlenton, Pa.; Dr. D. Proctor Campbell, formerly of Iowa, recently of New York City is now at Concord, N. H.; Dr. A. L. Elder has located at Defiance, O.; Dr. N. P. Stafford, at Eagle Station, Ky.; Dr. C. P. Wyman, at Everton, Ind.; Dr. W. A. Swimley, Tarlton, O.; Dr. J. H. Criswell, Butler, O.; Dr. C. D. Smith, Elm Hall, Mich.; Dr. M. C. Hoag has removed from Ohio to Santa Cruz, Cal.; Dr. James A. Varier, should be addressed at North Liberty, Ind.; Dr. Wm. F. Harvey has removed from Indiana to Union, Iowa.

PAMPHLETS RECEIVED.—Report on Vaccination, read before the Ohio State Medical Society. Being an inquiry concerning human vaccine, vaccino-syphilis and animal vaccine. With letters from Hebra, Sigmund, M. Guerin, Zeissl, Neumann, and Winderhofer. By Wm. B. Davis, A. M., M. D., Cincinnati, O.

Twenty-seventh Annual Announcement of the Woman's Medical College of Pennsylvania.

Record of New Remedies and their therapeutical value. Use of Phosphorus in its elementary state. Published by W. R. Warner & Co., Philadelphia. Vol. II, No. 2.

A Clinical Lecture on the Treatment of Incipient Stricture, by Otis's Operation, by Mr. Berkely Hill. Together with explanatory remarks on the treatment of stricture and gleet. By Fessenden N. Otis, M. D. Prof. in the College of Physicians and Surgeons, N. Y. Reprinted from the *London Lancet*

On Stricture of the Male Urethra, its Radical Cure. By Fessenden N. Otis, M. D., Prof. in the College of Physicians and Surgeons.

A Clinical Lecture on the use of Plastic Dressing in Fractures of the Lower Extremity. By David W. Yandell, M. D., Prof. in the University of Louisville.

MICRO-PHOTOGRAPHS IN HISTOLOGY.—We have received Nos. 3 and 4, Vol. I of the series of micro-photographs by Dr. Carl Seiler, in conjunction with Drs. J. Gibbons Hunt and Joseph G. Richardson. We have in these two numbers the following plates: Longitudinal Section of femur of human fetus; Enchardroma from the Thigh; Hyaline Cartilage; Transverse Section of Dry Bone; Hepatic Cells from Liver of a Fly; Lukæmia of the Liver; Blood Corpuscles of Man and of the Ox, exhibiting their comparative size; Fat Cells from Mesentery of a Cat

Some of the photographs are good, others poor in consequence probably of the preparations being unskillfully prepared and mounted. We regard the work as valuable to students in histology.

ONE of the oldest and ablest practitioners of Butler county, Pa., relates the following (Transactions Pennsylvania State Medical Society, 1875): M. G. is a worthy farmer of the Celtic race. He came into the doctor's office with his arm hanging down, and a look of pain on his face. The doctor was going out, but stopped with a "What is the matter, M.?" "Shure, sur, I fell on the barn flure and hurt me arm." "You did, eh; well, off with that coat and shirt." Off came the articles, and after a moment's examination the doctor exclaimed, "Why, man, your shoulder is out!" "Well, doctor, can you fix it?" "Oh, yes; lie down on that lounge." Before he complied he said a few prayers and took a drink of whisky. Without more ado he was put through all the manipulations known to ancient or modern surgery, with no good result. The patient became exhausted, cross, discouraged. The doctor, perplexed, his shirt soaked with perspiration, sat glowering at Mike in despair, when a thought struck him, and he asked, "Mike, when did you do this—get this shoulder out I mean?" "Shure, sur, I think it was *about twenty-two years ago, in Ireland*." Two men put on their coats in short order, and one never attempts to reduce a dislocation without asking "*when?*"

IT will be noticed that the present number of the MEDICAL NEWS has eight extra pages. The large amount of matter on hand made the enlargement necessary.

THE

CINCINNATI MEDICAL NEWS.

VOL. IX. No. 106. Old Series. | OCTOBER, 1876. | VOL. V. No. 10. New Series.

Original Contributions.

THE FORCEPS IN BREECH DELIVERIES,

With a Description of a New Instrument.

By A. J. MILES, M. D. Professor of Diseases of Women and Children in the Cincinnati College of Medicine and Surgery; Fellow of the Obstetrical Society of London.

A paper read before the Ohio State Medical Society, June 20, 1876.

Leishman, in his late work on Obstetrics, gives the proportion of breech presentations as 1 in 45 mature births. Of these the mortality has been variously estimated.

In cases born without any interference from the accoucheur, 1 in 8 are born dead; in those where artificial delivery is required, 1 in 3½ cases are born dead.

These figures give the mortality as low as any of our most sanguine obstetrical writers.

It will be useful in this connection for us to consider some of the causes which bring about this fatality in breech cases.

1st. The breech, as a dilating power, is far inferior to the head. The bag of waters in breech cases does comparatively little in dilating the os; with the os partially dilated, the membranes ruptured, the breech comes to exert a pressure on the os. The soft tissues which compose it, its smaller size, as compared with the head, all add to its disadvantages. With the parturient canal insufficiently open the trunk engages. There is exerted an unusual pressure on the viscera contained in the abdominal and thoracic cavities. Death to the child may ensue from this direct pressure compromising the action of the heart. After the trunk the head descends. The decent of the body has already caused such a position of the umbilical cord, that it is subject to pressure between the child and the pelvis. When the head comes down, the traction on the cord is increased and the placenta is torn from its attachments at a time when it is not as yet possible for the child to respire. Here rises a great difficulty. In vertex presentations, the head, the largest part of the fœtus, precedes. The parturient canal is dilated to its widest extent by the passage of the head, and the passage of the body is usually a matter of slight difficulty. The contrary is the case in presentation of the breech. Here the smallest part of the fœtus precedes. Now at a time when the maternal circulation can no longer support the life of the child, the head is delayed, by reason of its size, until such time as it can, by its own power, dilate the passage. Suppose the placenta to be still attached while the head is in utero, what is the condition of things? The uterus has expelled the major part of its contents. The head only remains. The uterus, relieved of the counter pressure caused by the presence of the fœtus in its cavity, contracts down to such a degree that placental circulation is impossible.

In the olden times it was thought that the only safe way by which a child could be born was by presentation of the head. This idea was long since exploded. Instruments were devised, and manual methods recommended, by which the fœtus could be delivered in breech cases, even in cases where there was considerable difficulty.

Let us notice for a moment some of the means which are at present used. First, we have the blunt hook. This instrument is applied in the flexture of the groin. If there be any resistance of consequence to the passage of the child, one of two things will follow traction made by means of this instrument, viz: the femur will be fractured, or there will be such laceration of the parts, that the future prospects of the child may be endangered thereby. This may occur in several ways,—a laceration in this part is constantly irritated by the passage of the urine, and a very extensive ulceration may take place. If this is not the case, the contusion of the parts may result in abcess or gangrene. Any of these conditions place the child in considerable hazard. I think the experience of all my professional brethren will bear me out, when I say that in cases where the blunt hook is applied, there are bad consequences if any force at all is used; and in such cases where the instrument is applied, and where no untoward results have followed, the traction was so slight that the finger would have accomplished the same end, thus making the instrument partically useless.

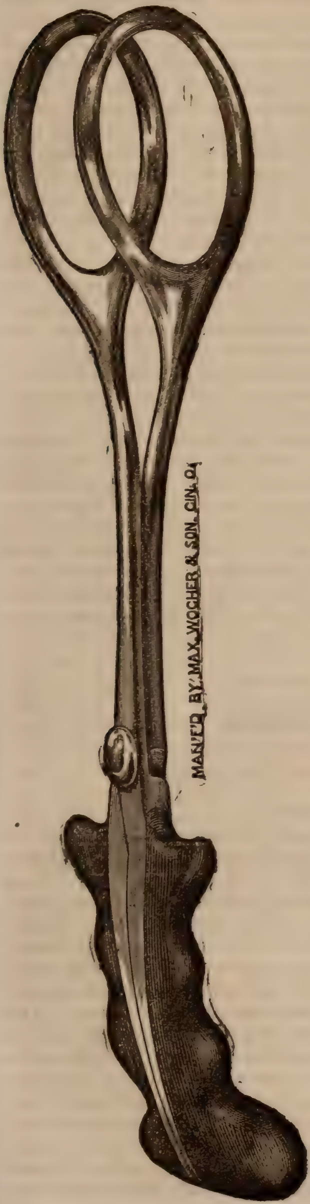
What is said of the blunt hook is true of the fillet. This apparently harmless instrument is capable of doing a very great amount of damage, and, added to this, there is the difficulty of its application. The finger is the best instrument we have in obstetric practice, but there are times when the finger cannot serve our purpose. Suppose we have a case where the breech has descended low in the cavity of the pelvis. From uterine inertia or other causes there is no progress in the case,—we hook our finger into the groin,—we try to move the breech, wedged and immovable,—we fail, —what is to be done? We fear to use the blunt hook or fillet, for experience has taught us the bad results which are liable to follow their use. In such cases the forceps has been recommended by high authority.

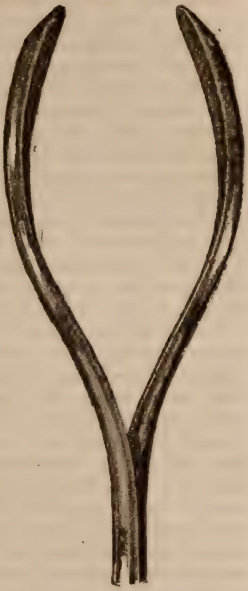
There have been many objections urged to the use of the forceps in breech cases.

1st. It has been said that the instrument is liable to slip. This is no more the case than where the instrument is used on the head.

2d. It has been said that the blades of the forceps passing over the ilia would exert undue pressure on the abdomen of the child. The bowels will be moved aside by the presence of the instrument; the only bad consequence is perhaps a slight bluish mark on the abdominal walls. How much more severe are frequently the effects of this instrument when applied to the head. This has been the experience of Professor Hueter, of Marburg, who has used the instrument in a large number of cases.

If there be any ground for the above objections it is, I think, entirely obviated by the forceps I have devised especially for use on the breech. This breech forceps, by its adaptation to the anatomical construction of the pelvis of the child, will not, when properly adjusted, slip, or produce undue pressure on the abdomen of the child. The length of the entire





The accompanying cut shows the side view of the instrument, half size, and also a front view of the blade closed, half size.

instrument is 12½ inches; length of the blades, 7½ inches; length of the handle, 5 inches; width of blades in the widest part, 1¾ inches; length of fenestra, 2⅝ inches; width of fenestra in its widest part, 1¼ inches; distance of the blades at the widest part, when locked, 2⅛ inches; distance of the tip of the blades when locked, 1¼ inches; length of the expanded part of the blades, 4½ inches. The advantage of this instrument over the head forceps for breech cases is apparent, being constructed, as it is, to fit over the pelvis; spoon-shaped, so as to dip over the crests of the ilia embracing the trochanters in the fenestra. Closely fitting over the pelvis, it affords us all the power required for extracting the child; and, by its compactness and adaptation to the breech, it is less liable to injure either the mother or the child than any other instrument previously in use.

The application of the forceps in breech cases is as follows:—In the first position, in which the breech lies in the left oblique diameter, left trochanter forward, the instrument is adjusted in the following manner: The left blade is passed in front of the left sacro-iliac-synchondrosis and is made to take its position over the right trochanter. The right blade is passed forward over the left trochanter. In the second position, in which the child lies in the right oblique diameter, right trochanter forward, the left blade is passed forward over the right trochanter, the right blade is passed backward in front of the right sacro-iliac-synchondrosis over the left trochanter. Professor Hueter insists that the trochanters should be engaged in the fenestra, and that the ends of the blades project well upon the pelvis of the child. Should the blades grasp the upper portions of the thighs, the limbs of the child might be injured in extraction. It would be well during delivery, to examine from time to time the position of the forceps during the intervals between the pains, to see if they remain properly adjusted. During the extraction of the child care should be taken to humor the natural movements of rotation, etc. The forceps should not be removed until the trochanters are born.

REPORT OF TWO CASES.

By W. R. Amick, M. D., Cincinnati, O.

TRAUMATIC CATARACT.

William P., a young man nineteen years of age, was sitting in his father's shop when his brother threw a sharp pointed stick and struck him in the right eye. He did not think that the eye was injured, and did not feel any pain at the time. He went home and found that in a few hours he was scarcely able to see with that eye. The next day he called upon a physician, who, after looking at the eye, told him that there was a "white scum" over his sight, and all that was necessary for vision to be restored was to remove that "scum." He accordingly ordered an ointment composed of rumax crispus, adeps, and some other ingredients. The application of this was severe. The patient stated that for half an hour or more after it was *put in the eye*, the pain would almost make him frantic, so much so that he would lay down on the floor and roll across the room. When he saw the doctor on the second day he told him that he could not use the ointment on account of the intense suffering that it produced. After the physician had looked at the eye, he gave the patient a few words of consolation, and cheered him up by saying that the application was producing the desired effect, and in a few days he would have the "scum drawn out," and then he would be all right. For about two weeks this course was pursued with the most intense suffering upon the part of the patient. At the end of this time P. found that the scum, which at first did not appear to be larger than a pin's head, was five or six times that size now. The medical man explained (?) that it was a natural process, that as the medicine drew the scum out it would naturally get larger, but assured him that it was nearing the surface, and that in due time it would all be drawn out and vision restored. Again he impressed upon the patient's mind that all that was necessary in the case was to get rid of the scum, which he was doing as rapidly as the nature of the case would permit. But, notwithstanding all this, the patient refused to continue the remedy (?) any longer, and the doctor had to make a new mixture. The second prescription consisted of albumen ovi and alumina four drachms. This astringent was given with the same directions that indicated the use of the unguent. Although it did not occasion as much discomfort as the former application, yet it was productive of considerable pain. This astringent was continued for about three weeks. The patient noticed that the "white scum" was getting larger, and that there was a corresponding disorder in the amount of sight. He became dissatisfied with the treatment and indicated the same to his physician, and asked for an explanation as to the cause of the scum getting larger, the sight decreasing, and the eye becoming inflamed. The same hobby was used for an explanation that had been used on former occasions, with the remark that "patience was all that was required." The doctor was not only astonished, but his righteous indignation was considerably aroused at having his method of treating a case of this kind called in question. He cautioned the patient about going to another physician, stating that he might be ignorant of the nature of the disease, and not understanding the case might institute a course of treatment which would result in a total loss of sight in that eye.

The above is a correct statement as related to me by the patient when I first saw him. I have given it to show how much the doctor knew about the case, at the same time that he professed to understand it thoroughly, and was giving the patient the most rational treatment, with the assurance that if his directions were followed normal vision would ultimately be restored. This sapientia did not know the cornea from the sclerotic, nor the iris from the lens. All that he knew was, that there was a "scum" growing over the sight, stating that it was not inside of the globe but in the anterior part of it (in the cornea,) and he was going to remove it by "drawing it out."

It is useless for us to comment upon the diaphonicity of the doctor's statements, or of his treatment of the case; but whether he is a first class ignoramus or not we will leave the reader to judge.

When the patient presented himself we found the following condition: Pain in and around the right eye, some congestion of the palpebral conjunctiva, photophobia and lachrymation tolerably well marked, with a well defined circum-corneal rosy injection. Pressure upon the globe produced pain, especially in the ciliary region. The intra-ocular tension was increased. An examination with oblique illumination revealed an opacity in the center of the cornea, the point where it was punctured by the stick. The anterior chamber was shallower than normal. The iris was slightly discolored and contracted. It responded feebly yet uniformly to light. The area of the pupil was filled with a white opaque mass, (the scum spoken off by the doctor.) It had the appearance of a polypus with a pedunculated attachment to the anterior capsule of the lens, and would change its position with different positions of the head. The stick had not only passed through the cornea and aqueous chamber, but had punctured the anterior capsule and penetrated the lens. Through the opening in the capsule the lens had imbibed aquous humor, and become opaque. The lens substance by this process was softened, and the swelling forced a portion of it through the opening into the anterior chamber. That portion that was forced through the opening had collected in a mass in the anterior chamber, and was connected with the remaining portion of the lens by the small stem-like part that was gradually being forced through. This is what made it resemble a polypus in shape. On account of the mass occupying the pupil, and the lens substance being opaque, vision was very much impaired. He could not distinguish objects, but could very readily tell when the eye was shaded and when it was not. On account of the irritation in the ciliary region and glaucomatous condition ot the eye the operation was postponed, and atropine applied to the eye. Cold applications were made, and as he had considerable nocturnal pain, one or two ten-grain Dover powders taken in the evening. The eye was protected from light with a green shade. A week later the pain had nearly ceased and the pupil fairly dilated. There were no synechia, but a considerable degree of tenderness on pressure in the ciliary region still remained. The circumcorneal injection, although marked, was lessened. The lens substance continued to pass into the anterior chamber. The atropine was continued for over a month. At the end of this time the increased intra-ocular and ciliary irritation had passed away. On the sixth of November an operation was performed by Von Graeff's modific linear extraction, the incision and iridectomy being made downwards. The treatment consisted of the compress and bandage, with rest in bed in a dark room. Being inclined to rub his eye, his hands were fastened at night. On the third day he was allowed to be up in the room and atropine applied to the eye. By the end of the week the wound had healed, and all irritation, except a little redness along the line of incision in the sclerotic, had passed away. The pupil was entirely clear and he had no subsequent complications. The only trouble that he experienced was, that when out of doors he had to use a shade over the eye on account of the light dazzling him and causing lachrymation. However, at the end of another week, he laid aside the green shade, and since then has had no more trouble with that. Of course, the lens being removed, sight in that eye is not as good as in the left, but by the aid of suitable glasses he could have binocular vision.

CONVERGENT STRABISMUS.

America M., æt. twelve, school girl. For a number of years her father and mother have been troubled with chronic granulations of the eye-lids, but neither of them manifest any disposition toward squinting. America's health has generally been good. About five years ago she had an attack of typhoid fever, and shortly after she had recovered from that, her parents noticed that she was a little "cross-eyed." When they first noticed it, the convergence was only to a limited degree, and periodical; at other times nothing could be noticed. However, in the course of a twelve month, the squint became established. From this time on they did not notice anything farther than "that the eye kept on turning farther in, and became more crossed."

On November 2nd I was called to see the patient, and found the following condition of the eyes: She had a monocular convergent squint of the right to the extent of nearly four lines. When the patient was directed to look at an object directly in front, the cornea of the right eye was turned so far inward that none of the sclerotic coat could be seen at the internal canthus. When she was directed to look to the right, the squinting eye would turn but little farther than the median line, and it required quite an effort to maintain it in that position even for a short time. Directing her to fix an object, it had no effect whatever on the left eye to cover and uncover the right eye with a card. If the left eye was covered, then the right, slowly and with an irregular movement, would turn in the direction of the object. Sometimes it would turn too far, and then would follow a few oscillating movements before it would become fixed upon the object. At the same time that the right eye would be fixed upon the object there would be a secondary deviation or squint of the left, corresponding in extent to that of the right. When the left eye was fixed upon the object the right was not only turned inward but considerably upward. When the right eye was fixed the left turned inward but very slightly upward. The left eye when squinting did not make any irregular or oscillating movements. As soon as the left eye was uncovered the right immediately turned inward. When the patient was directed to look up at the ceiling a distance of a few feet directly in front of her, the pupil of the right eye would all be covered by the lid except a small arc of the periphery. The arc of mobility in the two eyes was exactly of the same extent so long as that movement was to the left of the median line, but in that portion of the visual field to the right of the median line the mobility of the right eye was very much limited, so that the arcs in this part of the field did not correspond.

In this case, as in the majority of the cases of concomitant monolateral squint, we found defective vision in the squinting eye. On examination it was found difficult for the patient to count fingers at the distance of six inches. Vision in the left eye was also defective being myopic one-third.

When an eye is excluded from binocular vision for any length of time, the sight in that eye begins to fail from non use. This condition may be produced by opacities in the cornea or lens, by suppurative iritis followed by occlusion of the pupil or strabismus with binocular vision. Frequently in binocular vision the acuteness of sight is much greater in one eye than in the other, and this difference in the distinctness of the two images leads to a suppression of the weaker. This active suppression by the mind of the less distinct image leads to a form of amblyopia called amblyopia ex anopsia, in which the retina becomes less and less sensible to the impressions that are made upon it. If this condition continue it will not be a great while until the retina will be entirely insensible to any impression that may be made upon it. The retina in children are more liable to become thus affected than in the adult. Hence, if a child has a strabismus that is monolateral, and the retina of the squinting eye is becoming affected, it is not a good plan to defer the operation on account of age, for while the child may be advancing in years, the sensibility of the retina may so far decrease, that sight in that eye will be irrevocably lost. Parents sometimes make this grave mistake, and then, when the operation is performed and they find that the child is blind in the squinting eye, the one that is operated on, they give the operator the credit for having put it out.

This condition of insensibility of the retina we found existing in our little patient to such a degree that with the right eye she could not tell her father from her mother across the room. In addition to the squint she had chronic granulations of the eye-lids, which had existed for about a year. Before the operation was performed for the strabismus a five-grain solution of nitrate of silver was brushed upon the lids daily for a fortnight.

On the 16th day of November I gave the patient chloroform and operated upon the right eye, dividing the tendon of the internal rectus according to Well's modification of Von Graeff's operation Von Graeff operated as follows: Place the patient under the influence of an anæsthetic. The eye-lids to be kept apart by the spring speculum or elevators. An assistant should evert the eye in a horizontal direction with a pair of forceps. The operator should then seize with a pair of finely-pointed forceps a small but deep fold of conjunctiva and sub-conjuctival tissue, close to the edge of the cornea and about midway between the center and lower edge of the insertion of the internal rectus. This fold is then snipped off with the scissors. The squint hook is then passed under the tendon. The conjunctiva is then pushed off of the upper portion and the whole tendon is exposed. It is then divided close to its insertion to the schlerotic. If there are any lateral expansions of the tendon they are then divided. Well's modification consists in the opening in the conjunctiva being made a little lower, and the tendon not exposed but divided sub-conjunctivally.

The treatment afterwards consisted in applying the cold water dressing for the rest of the day. On the following day a piece of card board was fastened before the eyes. On its posterior surface was fastened a piece of cotton batting so arranged as to keep the left eye closed. The card extended just to the center of the right eye and served a double purpose. First, by keeping the left eye closed the patient had to use the right in order to move around, and this exercise would increase the sensibility of the retina which had become so blunted. Second, it would have a tendency to increase the effect of the operation by constantly using the external rectus before the tendon of the internal muscle had become attached. By this means the eye being rotated more or less all of the time to the right, the attachment of the internal muscle would be more posterior than otherwise. This treatment was continued the greater part of the time for two weeks. At this time there remained about a line and a half of convergence. The patient could count fingers very readily at six feet, and experienced no trouble in going around the room with the left eye bandaged, or even in going down the steps into the street.

Two weeks after the first operation I again administered chloroform and operated upon the internal rectus of the left eye by the same method that I had used in operating before. The operation was more limited as there was not so much deformity to overcome. The water dressing was then ordered for the rest of the day.

In this case we labored under the difficulty of not having binocular vision even after the second operation, from the fact that the image of the right eye was so indistinct in comparison with the left, that no cognizance was taken of the former. In order to determine the result of our operation we had to cover the left eye and direct the patient to fix with the right, then by removing the card we could observe that there was no turning of either eye, and consequently a parallelism existed.

STERILITY CAUSED BY FATTY DEGENERATION OF SPERMATOZOA—Dr. L. Bianchi (*Il Movimentz Med. Chirurg.—Clinic*, April 26, 1876) reports a case illustrating a cause of sterility overlooked A young man of perfect health was married to a woman of good physique. The man had not been addicted to drink or venereal excesses of any sort. Yet they were sterile. On careful examination, it was found that the secretion of the testicles had undergone fatty degeneration. Thus it appears that in a period of apparent vigor, with no apparent affection of the testes, there may be complete fatty degeneration of the spermatozoa. Further, this may be a cause of infecundity.

Selections.

SUPPURATIVE OTITIS MEDIA.

Formation of Pus in the Mastoid Cells—Operation of Perforating the Mastoid Process.—Recovery.

By A. BLITZ, M. D., of Nashville, Tenn.

Mr. A. H. Lusk, age 26, a young lawyer of this city, awoke on the morning of January 23, 1875, with a sore throat and disordered stomach. His physician, Dr. Buist, being called, prescribed for the disorder. At about two o'clock the same day the patient experienced considerable pain in the left ear, corresponding side of the face, and along the course of the sterno-cleido-mastoid muscle, which, however, lasted only a short time and then ceased. After an hour the pain re-appeared, lasted a few seconds; again disappeared to return every half hour or hour until about six o'clock the same evening, when the entire left side of the head, face and neck began to ache, and the pain in the ear increased, so as to be almost intolerable. Dr. Buist was sent for, and on arriving injected morphia hypodermically over the mastoid process, which greatly relieved the patient. Hot fomentations to the whole side of the face and neck were ordered. Patient slept well until twelve o'clock, when the return of pain awoke him. By morning, (January 24th,) the pain was intense. Dr. Buist syringed the ear with warm water, removing therefrom a large quantity of impacted cerumen. The syringing was very painful, nearly prostrating the patient. Morphia was again injected hypodermically, this time into the arm, and brought relief in a few minutes.

January 25th. Hot poultices were kept to the ear during the entire day, which gave relief. About dark, the pain returned, and Dr. Buist again syringed the ear, injected morphia into the arm, and administered some whisky. Patient slept well that night.

January 26th. On awaking, patient discovered soreness over the mastoid process. The pain in the ear was greatly diminished, but the patient was entirely deaf in that ear. Leeches were applied behind the ear, and the patient was soon able to leave the bed. Later, cantharidal collodion was applied over the mastoid, which, however, did not relieve all the soreness. The ear still continued to give some trouble, and on the 20th of Febuary, for the first time, a discharge of pus and some blood from the ear was noticed, which soon ceased, but on the 23d the discharge reappeared, continuing without interruption to flow in large quantities from the ear.

The above statement was kindly furnished me by the patient, with Dr. Buist's approval.

I saw the patient for the first time, through the kindness of Dr. Buist, on March 6th. On examination, found the meatus externus considerably inflamed and somewhat swollen. The introduction of the speculum was painful. I could only see a small portion of the tympanic membrane, which was very much discolored, and had a perforation at its posterior inferior aspeet. I was unable to judge of the extent of the perforation on account of the swollen condition of the canal The eustachian tube was pervious, and the air-drouche drove a stream of air through the opening of the tympanic membrane, which led me to believe that the perforation was extensive. The region over the mastoid process was not swollen, nor discolored, but exhibited tenderness upon pressure. I suspected suppuration in the mastoid cells, the discharge being too great in quantity to come from the middle ear alone, and all the symptoms indicated that it came from the mastoid cells. I told the patient of his condition, and advised trephining of the mastoid process, but the patient was so averse to an operation, that I agreed to try antiseptic injections into the ear for a few days, but should the discharge still continue undiminished, I would resort to trephining the mastoid. After using the injections for a week, the discharge continued the same as before, and I urged the performance of the operation, to which the patient consented. I performed the operation on March 17th, at 10 o'clock in the morning, in the presence of Drs. Paul F. Eve, Duncan Eve, J. R. Buist, Van S. Lindsley, J. Saudek and M. Campbell. The patient being placed in the recumbent position, Dr. Buist proceeded to administer ether. It required fully forty-five minutes to bring the patient under the influence of the anæsthetic, but when he finally succumbed, he remained quiet and did not move during the performance of the operation. As soon as complete anæsthesia was produced, I made a semi-circular incision, commencing a little below the insertion of the ear, about 1½ inches in diameter, the hole cut being immediately over mastoid process. The base of the flap thus formed was about four lines from the insertion of the ear, running parallel with it, the apex pointing backwards towards the occiput. After dissecting up the flap, I denuded the bone of its periosteum sufficiently to inspect the external surface of the bone, which appeared to be in good condition. I now proceeded to perforate the bone, using a burr-headed bone drill. The spot selected was about three-fourths of an inch above the lowest point of the process. I now drilled down slowly and carefully until the opening was a quarter of an inch deep, and measured the same in diameter, but still did not reach the cells or pus. I then pushed a small pointed probe slowly downward, when the inner table gave way and the pus made its escape through the opening.

There is no need to describe with what anxiety every one present watched the operation, and what a relief it was to all present, and especially to myself, when the pus made its appearance and escaped, as every surgeon has experienced the same feelings when performing difficult operations involving the life of his patient.

I now enlarged the opening in the bone a little upwards, and removed some small particles of necrosed bone, after which I syringed the opening with a warm solution containing carbolic acid cryst. ½ dr. to aqua dest. iv oz. These injections were continued twice a day during seventeen days. The orifice was kept open by a nail-shaped plug of lead about three-fourths of an inch long, which was removed each time the wound was to be syringed, and then again replaced. Part of the fluid thrown into the cells passed out from the ear, nose and mouth. The day following the operation, the patient felt rather prostrated and some nausea, due to the large quantity of ether inhaled, but on the third day he was able to leave his bed and sit up in an easy chair, or walk about his room. I prescribed pills containing iron, quinine and strychnia. His general health began to improve. His appetite became much better, and he often complained because I would not allow him to eat as much as he craved. He felt well, except an occasional indisposition, which, however, did not last very long. The discharge of pus from the ear and mastoid cells ceased entirely a few days after the operation

On the 30th of March, just thirteen days after the operation, I removed the plug of lead, and, although I still syringed the wound, I encouraged the gradual healing up of the same.

On April 4th I discontinued the injections, and applied an ointment containing carbolic acid in cosmolin, which was changed twice or three times a day, and the wound is now entirely healed. The swelling in the external auditory meatus has entirely subsided, the perforation in the membrane tympany has closed, and the hearing in this ear is gradually returning, ordinary conversations being heard as well as ever, low conversations at fifteen feet, but the watch at 1½ inches from the ear only.

REMARKS.

Trephining or perforating the mastoid process must now be considered as an established operative procedure, it having been performed by Tollin, Schwarze, Pagenstecher, Hinton (London), Jacoby, Agnew (New York), Colles (Dublin), and St. John Roosa, since 1859.

Trephining the mastoid process was first suggested by Riolanus, in 1649, in cases of occlusion of the eustachian tube, and to remove by injections through the opening morbid secretions from the mastoid cells and tympanic cavity. Rollfink, of Jena, advocated the operation in 1656. According to Von Troeltsch, the first operation was actually performed by J. L. Petit, the instruments used being a gouge and a hammer; but no account is given of the operation itself, nor why it was performed.

To Jasser, a regimental surgeon, who performed the operation in 1776, we are indebted for having fairly established the perforating of the mastoid process as a legitimate surgical procedure. He performed the operation successfully on a soldier, who for many years had been suffering from suppuration and pain in the ears, which was not relieved by active and judicious antiphlogistic treatment. Abcess of the mastoid and death of the bone existed. Jasser, in this case, was justified in opening the mastoid. The operation is a credit to its author, which every fair minded surgeon will admit Wilde must have misunderstood the object of Jasser's operation, else he would not have classed it with the number of those peformed for the cure of obstinate deafness, for which it was much resorted to in former times, and on account of proving fatal in some cases brought the operation into disrepute.

In his excellent work on Diseases of the Ear, page 33, M. Wilde says: "In 1793, Jasser revived the old operation of perforation of the mastoid process for the purpose of injecting the middle ear; but as the success attending this procedure must be very doubtful, and the hazard very great, it is never resorted to in the present day."

On page 345, the same author says: "Artificial perforation of the mastoid process, for the purpose of throwing injections into the middle ear, or to relieve deafness in cases where the eustachian tube has been completely closed, an operation to which I have already adverted at page 33, has long since been exploded, not only as ineffectual, but positively hazardous."

Wilde must have confounded this operation with those performed for the relief of deafness only, for which no surgeon in the present day would for a moment think to undertake the operation.

Arneman, according to St. John Roosa, laid down the following rules for the performance of the operation, which, owing to our more accurate knowledge, have happily been laid on the shelf. He arranged them in the following order:

1. In any case of absolute deafness, or in any case where the impairment of hearing is constantly increasing, and for which all other remedies have been used without effect.

2. When in case of an ulcer or suppuration of the ear, the morbid

material has become collected in the cells of the mastoid, or the cells have become carious. (This is certainly a good indication, and the only tenable one in this whole group, and the one upon which Jasser acted.)

3. If the normal mucous secretion has become hardened, or collected in excessive quantity.

4. In cases where pain and noise, which would finally destroy the hearing, have existed in the ear for a very long time.

5. In cases of stoppage of the eustachian tube, not remedied by injections.*

It is very easy for any one who has given the diseases of the ear some attention, to comprehend that in the preceeding five rules, indicating the performance of the operatian, as laid down by Arneman, there is only one (Rule No. 2) that does correctly indicate the necessity for this operation.

Arneman reported, amongst five other cases, one, of a Danish surgeon, Berger, who for many years suffered from vertigo, noises in the ears, and gradually lost his hearing power. He found no relief from the ordinary remedies, and his malady placed him out of the society of his friends. This troubled him very much, and he finally resolved to have the mastoid process trephined. Dr. Kolpin perforated the process to the depth of three lines. The incision does not seem to have reached the cells, for an injection made in the opening did not pass into the throat. On the day after the operation a chill occurred. The chills continued to recur, and on the twelfth day after the operation Dr. Berger died of meningitis. Adhesions of the dura mater to the skull were found, and effusion of a transparent gelatinous fluid between the arachnoid and pia-mater, as well as over the whole surface of the cerebrum and cerebellum. Berger evidently suffered from what we should now term, chronic proliferous inflammation of the middle ear. No indication existed in this case for the performance of the operation.†

Dr. St. John Roosa, in his excellent work on the Diseases of the Ear, lays down the following very good and correct rules for the proper performance of this operation:

1. The integument aud periosteum should be freely divided over the mastoid in all cases in which there is pain, tenderness, and swelling in the part. (Wilde.)

2. Such an incision should also be made whenever severe pain referred to the middle ear exists, and is not relieved by the usual means, *i. e.*, leeches, warm water, etc.

3. An explorative incision should be made when we have good reason to suspect the existence of caries and retained pus in this part.

4. The mastoid bone should be perforated after such an incision whenever the bone is found diseased, or a small fistulous opening should be enlarged. It should also be perforated when we have good reason to believe that there is pus in the middle ear or mastoid cells which cannot find an exit by the external auditory canal.

5. The mastoid should be perforated in case of a suppuration of long standing, with frequent and painful exacerbations.

The careful aural surgeon will find that by following the above rules, and selecting his cases carefully, this operation will be followed by good results, and he will have the satisfaction of giving great relief to, and in many instances save the life of his patients, as death is almost certain to result if prompt action in perforating the mastoid is not resorted to in cases of abcess of the cells. In chronic cases, the bone becomes necrosed, especially the inner table, which leads, in children, to abcess of the cerebrum, and in adults to abcess of the cerebellum. The latteral sinus may become affected from the introduction of purulent matter, which may be introduced into it by the veins, as these are sometimes found to be distended by dark colored pus and blood.

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* St. John Roosa, Diseases of the Ear, page 423.

† St. John Roosa, page 421.

In conclusion, I will give the following case, which occurred in the practice of Dr. Brinton, in the Royal Free Hospital, London, illustrating the correctness of the above assertions. This case can be found in Toynbee's Treatise on the Diseases of the Ear.

CASE.

Acute inflammation of the mucous membrane lining the mastoid cells; suppuration; disease of the lateral sinus; abcess in the cerebellum.

A girl, aged 21, was admitted into the hospital three weeks subsequent to an attack of the scarlet fever. The history was, that since the fever she had a constant and abundant discharge from the left ear. On admission, this discharge was observed to be copious. She was drowsy, and at times almost comatose, with a rapid, feeble pulse, a cold body and limbs, and a hot face and head. In spite of all the remedies employed, the coma gradually grew more intense, and she died ten days after her admission.

AUTOPSY.

An abcess was found in the left lobe of the cerebellum, of the size of a walnut. It extended to the surface, and thus came in contact with a large quantity of pus, bounded by the diseased and distended walls of the lateral sinus, which latter contained pus and blood. There was an opening through the membrana tympani of a regular shape, and of a size one-third the whole diameter of the membrane. The upper wall of the tympanum was healthy, and not even discolored. The portion of the mastoid cells posterior to the incus contained some pus and blood mixed together; this extended down as far as the mastoid process. The portion of the lateral sulcus, about one inch long by half an inch broad, which forms the exterior boundary of this part of the mastoid cells, was of a dark leaden color. The canals in this portion of the bone were also distended with black matter.

Toynbee remarks, in connection with the above case:

"It seems to me, there can be no doubt that, in this case, the purulent matter from the mastoid cells was the cause of the disease in the lateral sinus, for the blood vessels between the two parts were distended with dark pus and blood."

THE CAUSES OF STERILITY.

The idea that sterility in women is chiefly dependent on causes which interfere with the proper union of the ovum and spermatozoon, appears from recent observations to be to a large extent incorrect. The question has been carefully studied by Dr. O. von Grunewald, of St. Petersburg, and he has published in the "Archiv fur Gynakologie," Bd. 8. Heft 3, the results of his investigation of about five hundred cases, partly of congenital and partly of acquired sterility, applying the term congenital to those in which there has never been a child, and acquired to those in which women below the age of thirty six, who had previously had one or more children, have ceased to bear any for at least three years, although living with their husbands. He finds that, in considering the relations of sterility to the various affections of the female generative organs, the impermeability of the cervix uteri by the semen is but very rarely one of the factors. When we consider the relative positions of the uterus and vagina, which are nearly at right angles to one another, and, further, the great impediment which appears to exist in many fruitful animals to the onward progress of the spermatozoa, we can only imagine that the latter can reach and unite with the ovum by their own independent locomotive powers. From this it follows that nothing short of actual atresia can be a sufficient mechanical obstacle to their advance.

Dr. Grunewald therefore believes that the power of conception is much less often at fault than the power of the uterus to bring the impregnated ovum to maturity; and he regards the various inflammatory affections of the uterine tissues themselves as the most potent of all causes of sterility; in fact, out of 450 cases of sterility, more than 50 per cent. were of this nature. Of the others, 20 per cent. arose without any detectable inflammation having occurred in the uterus and its outlet, and 30 per cent. were due to various anomalies in the sexual organs complicated with inflammatory processes. Dealing with these various causes more in detail, Dr. Grunewald shows that in endometritis the cervix uteri is generally too wide, the menstruation is regular, and the secretion from the parts is as little injurious to the life of the spermatozoa as other secretions—for example, that of carcinoma uteri; yet that still this disease gives rise to sterility as soon as it involves the major portion of the uterine mucous membrane, and it certainly does so when the latter is destroyed and converted into a thin connective tissue layer.

Inflammation of the body of the uterus—Dr. Grunewald's mesometritis—prevents the development of the ovum, according to the greater or less extent of tissue which it involves. It most frequently is the result of parturition, which explains why many women who suffer from it have become sterile after a single pregnancy. Sterility from this cause is more intractable under treatment than that due to endometritis; for while 8.4 per cent. of those who were sterile from the latter recovered, only 3.1 per cent. of patients with the former conceived again.

Parametritis and perimetritis, which so often complicate other forms of inflammation, could be proved to be the sole cause of sterility in 10 per cent. of the whole number of barren women. They not only interfere with the nutrition of the uterus and its appendages, but also with their position, owing to the contraction of the adhesions and other inflammatory residua. They often begin in the first few weeks after marriage, and frequently relapse later on. The position of the exudation which they excite is probably of more importance than its size. The fact that some women in whom sterility from these causes has existed for a long time do again conceive may, perhaps, be explained by the development of a collateral circulation.

Sterility dependent on stenosis of the external os is, according to Grunewald, always the result of previous inflammatory processes, and may sometimes, though not often, be cured by dividing the stricture. With regard to flexions, he agrees with Scanzoni, that since the sound can almost always be made to pass the point where the bend exists without using violence, there is no reason to assume that the spermatozoa can not also pass. As a fact, conception not unfrequently occurs in cases of flexion. New growths do not, according to Grunewald, interfere with conception so far as the uterus is cencerned, unless they are large and affect its mucous membrane sympathetically. The latter event, however, generally occurs owing to the length of time which elapses before their removal, and this accounts for the rarity of pregnancy after the operation has been performed. Generally speaking, it may be asserted of all the above mentioned causes of sterility, that since their injurious effect must necessarily be most potent at that time when the greatest call is made upon the uterine mucous membrane—namely, in the third and fourth months of pregnancy—it will be at that time that abortion will most frequently occur. For the same reason we can understand how easily abortion, when it has once occurred, may become habitual.

The two axioms in which the author sums up the views to which his researches have led him are as follows: 1. Conception is only one link in the chain of phenomena which are involved in the propagation of the species, and its importance is relatively much less than that of many other vital processes which occur during pregnancy. 2. The woman's capability of maturing the impregnated ovum is the important element of her reproductive power, and it depends for its part on a certain amount of integrity in the tissues of which the uterus consists.

We shall only make one comment on Dr. von Grunewald's valuable paper, namely, that it gives but little encouragement to a mechanical treatment of the causes of sterility. It rather lends its support to the views of those gynæcologists who consider that general remedies which improve the tone of the whole system are as likely to be successful in affections of the uterus as in those of other organs.—*Med. Times and Gaz.*

CAN "PORT-WINE MARKS" ON THE FACE BE CURED? YES.

By Balmanno Squire, M. D., Surgeon to the British Hospital for Diseases of the skin, London.

Few lesions of the skin are more hideously disfiguring than the congenital "Port-wine mark" of the face. I refer to the flat vascular nævus which may so often be met with in every country, causing the greater part (often) of one side of the face to present a livid, dark crimson color, and conferring an almost demoniacal appearance of the unfortunate subject of this forbidding deformity. So many adults of all classes of society may be seen going about with this lesion in its pristine condition, that it is clear at once that nothing is commonly contrived for its relief, and a little experience suffices to prove that any attempt at interference with this deformity is commonly regarded by the profession with disfavor. By some, the possibly uncontrollable hemorrhage is the fear entertained, by others, the scar that would ensue from the only means that seems to be free from the objection cited—cauterization—is properly a reason for refraining. However, as I have satisfactorily ascertained, the disfigurement can be removed without leaving any trace of its former existence, or of the means employed for its removal, and that by a very simple, safe, painless, speedy and easy procedure.

For the purpose in view, I employ a cataract needle, the head of which is made about four times the size of that of an ordinary cataract needle. With this needle I scarify the affected skin, making cleanly cut and parallel incisions over the affected area, and even also a little beyond it. The incisions are spaced apart one-sixteenth of an inch. In order to render the operation painless, and at the same time prevent any flow of blood interfering with the draughtmanship of the lines, I first freeze the skin thoroughly by means of Dr. Richardson's ether spray apparatus. Having performed the operation over a limited area I press on the scarified portion of skin with the fingers for about ten minutes, gently but firmly. At the end of this time all bleeding has definitely ceased. During the pressure a piece of white blotting paper is interposed between the fingers and the skin. The only styptic I employ is that of pressure employed as above described. As to the depths of the incisions, they should be made of such depths as nearly to divide the entire thickness of the cutis vera. Within a fortnight, if deftly performed, the operation has done its work without leaving trace of any kind save a notable and most gratifying improvement. No scars are left by it. However, a precaution needs to be stated. No lateral traction must be made on the scarified skin either during or within half an hour after the performance of the operation. In exercising styptic pressure after the operation, this essential precaution must be kept in view. When, in any case, any traction has been accidentally made on the skin in a direction transverse to the direction of the cuts, they gape slightly in consequence. The gaping cuts become plugged with wedged shaped clots, and, as an invariable fact, indelible linear scars are thus produced. If traction be avoided no trace is left of the operation. Sometimes one operation alone will not suffice, a second or even a third may be required. In such cases the direction followed by the linear incisions of the first operation should be carefully remembered and at the second operation the parallel linear cuts should be made to cross obliquely the direction of the original cuts, say at an angle of 45°. If a third operation be needed the cuts should again follow a different direction, that is to say, they should cross the direction of the original cuts at right angles.

After the operation any exudation or clot or scab should be washed off carefully the next day by a soft camel's hair brush and cold soap and water, followed by a soft piece of sponge wet with cold water only.

The operation conducted as above is absolutely painless. Very slight temporary swelling follows it. No permanent trace is left by it It does its work finally within a fortnight. No hemorrhage accompanies it, nor is it attended by risk of any kind. It offers to a number of hideously deformed persons an escape from their misfortune which may be safely recommended, and confidently offered by any practitioner. The results obtained by it are at once gratifying to the practitioner and satisfactory to the patient.—*Archives of Dermatology.*

PROCEEDINGS OF THE INTERNATIONAL MEDICAL CONGRESS.

This body, composed of delegates from foreign medical societies, and from national and State medical organizations of this country, together with distinguished invited guests from abroad, met at Philadelphia, Monday, September 4th. The general sessions were held each morning of the week to Saturday, September 9th, inclusive. Five afternoons were devoted to the meetings of sections, of which there were nine: Medicine, Biology, Surgery, Dermatology and Syphilology, Obstetrics, Ophthalmology, Otology, Sanitary Science, and Mental Diseases. About four hundred and fifty delegates and invited members were present.

ADDRESS OF WELCOME

The session was opened by Professor Samuel D. Gross, M. D., D. C. L., Oxon, President of the Centennial Medical Commission. After prayer by the Right Rev. William Bacon Stevens, Bishop of Pennsylvania, Prof. Gross delivered the address of welcome to the Congress. He greeted them in the name of the entire American medical profession. The occasion, he stated, was an unusual one. Everything had been fully discussed, and time and labor thoughtfully and earnestly bestowed by the commission, to perfect the organization of the Congress. It was at all times a gratification to welcome friends, but the feeling was vastly heightened by the fact that so many distant parts of the world were represented—Europe, the far east, Japan, China, etc. So far as known, every prominent medical society, and every distinguished medical man, had received invitations. It was a glorious specticle to see men laying aside their ordinary pursuits, crossing vast continents and perilous seas, to unite with us in celebrating our first medical centennial, and interchanging views and observations, laying the results upon a common altar, for the common good. No other congress ever had such a cosmopolitan outlook. It would exhibit what America had accomplished in a century in scientific work. Time was when we had no American medical literature or medical science; we were dependent on Europe until after this century opened. The addresses to be delivered by some of the best medical men of the country would show the completeness and rapidity of our progress. The period of medical provincialism has long since passed.

The speaker then alluded to the desirability of establishing a uniformity of nomenclature, weights, measures, and records of disease; to the modern improvements in the use of the microscope, chemical analysis, clinical observation, and experiments on inferior animals. Much could be done by this Congress for the advancement of medical science and international unity, strengthening the bonds and securing the co-operation of its votaries in various portions of the globe. It was well for men of different nationalities to come together to look each other in the face, and see what they have done to further the interests of scientific progress and to lighten the burden of human suffering, to interchange kindly feelings, to form new friendships and cement old ties. Such international reunions should be more frequent and more numerously attended. After incidentally alluding to the Exposition, and suggesting that the Congress should perfect its organization by the election of its own officers, Prof. Gross declared the sessions formally opened.

ADDRESS ON MEDICINE.

Professor Austin Flint, of New York, then delivered the Address on Medicine. After a few introductory remarks, he alluded to the potential agency exercised by the medical men of the country during and after the Revolutionary period; to the germination of medical literature at that time, and the foreshadowing of medical schools. He next referred to the practice of inoculation, and the pulpit denunciation of its sinfulness. Medical progress was signal after the war of independence. Two rival schools were soon in existence, and some interesting facts were detailed by the writer, of pecuniary contributions to schools and to the interests of medicine, the foundation of prizes at Harvard, etc. The medical schools of Philadelphia were modeled after that of Edinburgh. Cullenism prevailed, but was not long maintained, although it regulated practice, especially in the hospitals. After speaking more particularly of the physicians and surgeons of Philadelphia at that date, he alluded to the good work done in the provincial schools, which often supplied professors to the larger institutions of learning. Subsequent increase of the schools was not in proportion to the population, the number being scarcely greater now than in the early part of this century.

The part early taken by medical journals in contributions to medical literature, the characteristics and effects of Dr. Benjamin Rush's writings, the attachment of medical men of this country to the medical literature of Great Britain, even after the war of 1812, and the formation of medical societies in the early part of the century, were all referred to. He then alluded to the introduction of vaccination and the opposition it encountered. In 1814 the plans for the first American National Pharmacopœia, that of 1820, were laid. The next quarter of the century saw the discovery of ether as an anæsthetic; and the improvement of histological research, the translation of Bichat's work paving the way. Dr. Gross, early in his medical career, was indentified by his writings with the study of pathological anatomy in this country; so also Dr. J. B. S. Jackson. Auscultation and percussion in this quarter also came into general use in the United States through the translation of Laennec and writings of James Jackson, Holmes, and others. Its literature, and that of the physical exploration of the heart, were sketched by the speaker.

Bright's history of cases in 1828, introduced to general attention here, was followed by great progress in this form of pathology ever since. In 1828 the *American Journal of the Medical Sciences* was first published. Dr. Flint then alluded to the discoveries in the nervous system in this country, and the papers written upon them; to Beaumont's researches on digestion in the case of gastric fistula of Alexis St. Martin; to the views and literature of Broussaism, which fell and left no "ism" as its successor; to John Esten Cook and the heroic calomel treatment of his day; to the views of Louis on phthisis and yellow fever; to the self-limited nature of diseases, as advocated by Dr. Jacob Bigelow, in 1835; to the decay of polypharmacy and the progress of expectant medicine. The *United States Dispensatory* was published in 1833; the American Medical Association was founded in 1847.

The speaker then detailed the chief works on practical medicine during the second quarter of the century, with sketches of the labors of Dr. Nathan Smith, James Jackson, J. K. Mitchell, Drake, and others. The general introduction into this country of quinine was referred to, and also the contributions to the literature of yellow fever, croup, infantile therapeutics, affections of the brain, nervous system, air passages, etc. The use of topical applications to the larynx, and of opium, the early employment of suction from the pleural cavity, now called aspiration, all belong to the history of American medicine. He then gave a brief list of some of the authors of this quarter, and the names of those who have died.

The third or last quarter of this century is familiar to most of us. The great characteristic of progress in the United States at this epoch is in histology. Its influence on prophylaxis and practice were alluded to. After referring to the advantage of an international copyright for our own protection, and to the advanced position of American medical literature, and its recognition abroad, he declared that the chief characteristic of our medical schools, in spite of all cavil, was practical teaching. In conclusion, he dwelt on the good influences of the Code of Ethics of the American Medical Association, and to the elevated social position and public influence of the medical profession in this country.

Dr. Gross called attention to the fact that the speaker had modestly omitted all mention of his own (Dr. F.'s) contributions to American medical literature.

THE ADDRESS ON SURGERY.

Prof. Paul F. Eve, of the University of Nashville, then read the address on Surgery; Prof. Rudnew, of Russia, in the Chair.

The speaker alluded to the fact that the necessity of education abroad at first gave us no national medical characteristics. He then alluded to the various surgeons that had given America a reputation in this great field. He began with Physick, whose career he sketched, together with his improvements in surgical operations and appliances, as the tonsillotome, etc., the treatment of inflamed joints by perfect repose in coxalgia, spinal affections, etc. He mentioned a case of numerous calculi, one thousand in all, removed at one time by him from the same patient. He never spilt a drop of blood unnecessarily or wasted a word in his lectures.

He then sketched briefly the professional services of Physick's four contemporaries, Warren, Mott, Dudly and Gibson, whose average age at death was eighty-three. Warren was the first to operate with a patient under the anæsthetic effects of ether. He himself contended that his tapping the pericardium in a case of dropsy was the first on record. He was the first to close fissure in the vault of the mouth. Valentine Mott was noted for the boldness of his operation; he was the first to ligate successfully the common iliac; the first to exsect entirely the clavicle, tying forty arteries in an operation lasting four hours; the first to exsect the entire inferior maxilla. He tied the carotid fifty-one times, and amputated about one thousand limbs. No surgeon, living or dead, ever performed so many great operations. He operated whenever there was the slightest prospect of benefiting his patient.

Dr. Benj. Winslow Dudley paid special attention to preparing his patient for operation, by attention to his chylopoietic viscera, etc. He claimed to be the first to relieve intracranial aneurism by tying the carotid; he was a master of the bandage; a great lithotomist, although the statistics of his operations have been lost. Gibson was a splendid lecturer, and illustrated his lectures with beautiful models; he first tied the iliac artery for gunshot wound in streets of Baltimore, the patient living thirteen days. He twice performed the Cæsarian operation successfully on the same patient Prof. Jos. Pancoast having had a similar experience.

Dr. Andrew Wood Smythe, of New Orleans, in 1864 tied the carotid and vertebral arteries, and the patient lived ten years, dying of a second operation on the mammary artery. The ligation of the vertebral artery has been done by several. Dr. Cogwell, of Hartford, in 1803, first tied the common carotid. Until Dr. Gross published this fact, Sir Astley Cooper had all the credit of it. Dr. Wm. T. Briggs, of Nashville, was the first to apply two ligatures to the internal carotid. Prof. Post, in 1817, first successfully tied the subclavian, others abroad having failed.

Dr. W. Stone first applied metallic ligatures to a wounded artery. Dr. S. W. Gross has shown the comparative innocuousness of applying ligatures to veins. The practice of ligation of vessels for the relief of gangrene is of American introduction. Arterial compression was long known in this country. The employment of the Hunterian method of ligation as a means of prevention, or for the relief of destructive inflammation, was proposed in the United States. Dr. Carnochan first ligated the femoral for elephantiasis, and afterwards, in the same case, the external iliac, successfully. Dr. Jonathan Knight was the first to treat popliteal aneurism successfully by digital compression.

The speaker then alluded to the successful methods of treatment proposed and employed by American surgeons in varicocele, affections of the bones and joints, etc., etc. Dr. Daniels, of Georgia, first introduced extension by weights aud pulleys in fractures. A more detailed allusion was made also to the various modifications of fracture apparatus devised in this country, also to the efforts to overcome deformity in fractures, although, with most American surgeons, Dr. Eve believes that the os femoris, when fractured at certain points, cannot be extended to its full normal length and so maintained, without imparing its nutrition.

Manipulations for reduction of fractures by Dr. Wm. R. Reed is called by Mr. Spencer, the American or circumduction method. The discovery of the anæsthetic effect of ether in its relations to surgery was referred to, and also the important diagnostic sign described by Dr L. A. Dugas, of Georgia, by which absolute distinction was readily made between fracture and dislocation at the shoulder. Allusion was also made to the various modifications of splints, to the services of Dr. J. Rhea Barton and J. Kearnev Rodgers, in resection and exsection—the former, according to Erichsen, performing the first resection for bony anchylosis. Dr. Mussey, in 1837, performed excision of the whole scapula. Dr. Brainard, of Chicago, took the prize of the American Medical Association on the subject of perforation of the bones as a surgical expedient. Barton, Brainard and Buck were the first satisfactorily to relieve osseous deformities. Various other cases of resection of special bones were referred to, the resection of a portion of the coccyx for neuralgia, Sayre's numerous cases of successful resection of the femur, the employment of tenotomy, etc.

Dr. Mott founded the first orthopædic hospital in this country. Dr. Sayre has done more work in this department than any other person. Reference was also made to the operations of Americans for contracted limbs, congenital deformities, operations for exsection of the kidneys and on the genito-urinary apparatus, on the air-passages, etc. Primary amputation at the hip-joint for wounds was first successful in 1806 Three or four successful cases are reported in the late war; previously in foreign wars all had failed. If not for the record of these successful cases, says von Langenbeck, the Prussian Surgeon-general, it is doubtful if the operation would not have been prohibited.

The use of silver wire by Sims in uterine surgery was also referred to. Numerous other operations, as detailed by Dr. Eve, shed lustre on American surgery. He then alluded to the contributions made by surgeons to medical literature; to the labors of the Surgeon-General of the Army and his assistants, and to the mortality of the medical officers of the army during the late civil war, as being greater in proportion than that of any other branch of the service. Seventeen thousand operations had been performed by them. He mentioned the foreign tributes to the labor of the medical service during the war, during which they said they did the work of a century.

THE ADDRESS ON OBSTETRICS.

Prof. Theophilus Parvin, of Indiana, then read the address on Obstetrics. Many improvements in the art may be mentioned, and many advances in the science, notwithstanding Prof. Ramsay, of South Carolina, in the latter part of the last century, declared that obstetrics was so perfect that no improvement was possible. The speaker referred to those prominent at the end of the century—Baudelocque, with his twenty-three presentations and ninety-four positions; Smellie, William Hunter, opposite in views of obstetrics, mechanism, and physiology; Levret, and others. Lloyd, in Boston, and Shippin, in Philadelphia, were the earliest American practitioners of distinction. He then referred to Drs. James and Dewees, and their connection with obstetrics in America, the latter giving the first full course of obstetrics in this country. Seventy or eighty years ago the practice of obstetrics was chiefly in the hands of women, and was not lucrative, the compensation being only a dollar—in cities, three dollars—and the accoucheur, or rather accoucheuse, was nurse until the ninth day, and no posthumous honors attended their laborious work.

Bard's compendium was the first work on obstetrics in America. The speaker then alluded to other successful and useful American works, giving sketches of Dewees, and his successors and contemporaries—with criticisms, favorable and unfavorable, of their writings and teachings—as Meigs, Miller, Bedford, Hodge, Tucker, Warrington, Byford, and others. He gave an insight into the numerous treatises and papers on obstetric anatomy, and contended that the improvements in obstetric surgery saved more lives and was the means of relieving or diminishing suffering more than the changes in medicine or surgery proper. The history of the discovery of the anæsthetic effects of ether and its application to obstetrics was sketched, and the names of numerous authorities who early employed it or wrote papers about it were mentioned

The use of chloroform and of opium in obstetric practice; the practice of feeding women in labor; the induction of labor in placenta prævia, and in other conditions; the employment of ergot in labor for two most important purposes, etc., etc., were alluded to, with the names especially of Americans who had either first suggested them or improved on the methods of others. He also referred to bimanual turning, cephalic by Wright, or podalic version by Hicks; the treatment of prolapsed cord by Thomas, and others; postural treatment in complicated labor cases; head-last labors, described by Goodell; Parry's correction of faulty positions; Gibson's Cæsarian operations, operations of gastro-elytrotomy, etc., and stated that a full bibliographical appendix would accompany the paper.

The various American works on diseases of women were briefly enumerated, criticized, and discussed, such as those of Dewees, Meigs, Bedford, Thomas, and others. In uterine surgery much has been done; a tribute was paid to Sims and Emmet for their treatment of fistula, and to Atlee and Peaslee for their contributions to ovarian surgery. The positional disorders of the uterus were referred to, with an account of the various modifications of the pessary, the use of pneumatic pressure by Campbell, of Georgia, the different modes of treatment for inversion, by J. P. White, Emmet, and others; he discountenanced, as the profession does, resort to abdominal section in such cases. The use of glycerine and hot water was spoken of; the latter was claimed by Emmet to have been originated entirely by himself, to insure permanent contraction of the vessels. American suggestions had also been made in the division of stricture of the uterus in dysmenorrhea, amputation of the cervix uteri, the application of fluids to the lining membrane of the uterus, the treatment of uterine fibroids, electrolysis and ergot, and their complete ablation being also referred to in this connection, the removal of the uterus itself by Prioleau, of South Carolina, in 1819, etc.

Operations for genito-urinary fistula and for removal of various tumors are two of the greatest triumphs of American obstetric surgery. The names of various Americans were mentioned by the speaker as foremost in these fields. For ovariotomy, McDowell operated thirteen times, with eight recoveries. Spencer Wells lost four of his first thirteen; Baker Brown eight. The English claims to priority were examined and set aside. More than two thousand women's lives have been saved by this operation. Allusion was made to the early American ovariotomists, to Dr. Drysdale's discovery of the ovarian cell, to the various operations, as enucleation of cysts, obliteration of the vagina, vesico vaginal operations, as vesico-vaginal lithotomy, etc., of American surgeons

American works on diseases of children by Dewees, Eberle, Stewart, Condie, Meigs, and Pepper, and others, were mentioned, as well as works on special infantile diseases. The formation of obstetrical and gynæcological societies, hospitals, and journals, was rapidly sketched. The speaker alluded also to the presence of two distinguished obstetricians of Great Britain—Barnes and Simpson, and concluded his excellent address with a beautiful peroration.

THE ADDRESS ON MENTAL HYGIENE.

Dr. John P. Gray then read the address on mental hygiene, Vice-President McGuire, of Virginia, in the chair. Beginning with some introductory remarks on mental capacity, he divided his address into the individual, social, aud national relations of this form of hygiene. He referred to the bearing of intellectual and physical labor on longevity, the effect of training on manners and habits as exemplified in soldiers, schools, etc.; and to the various social restrictions and regulations as connected with mental hygiene; and to the apparent conflicts between science and religion. Only lately has mental hygiene been particularly demanded in the progress of science as a separate study. The "Rules of Health" of the School of Salernum were quoted, and reference made to the lessons taught by the Exposition, showing that in some countries—as Egypt—the characteristics of many centuries since still pervaded it.

He concluded by reciting the various lessons that could be deduced from the study of mental hygiene.

The address, which was well written and well delivered, was of so general a nature as not to admit of a satisfactory abstract. It differed from all the others in being almost entirely devoid of purely American applications.

REMARKS ON THE CLIMATE AND DISEASES OF COSTA RICA.

By Dr. C. Schwalbe.

Abstract from "Deutscher Archiv. fur Klin. Medicin," by Dr. H. P. Von Petershausen, of New York.

The little republic in which Dr. Schwalbe makes his abode is divided into three regions by two mighty mountain ranges, running through the country from north-west and south-east. The one towards the Pacific ocean is composed of ancient unstratified rocks, and its slope towards the ocean is of considerable steepness. The second chain runs nearer the Atlantic ocean. It is formed of a number of volcanoes, from 7,000 to 12,000 feet high, and presents towards the Atlantic a slope even more abrupt than that which the other chain presents towards the Pacific ocean. These chains enclose the plateaus of St. Jose and of Cartago. This central region is highly cultivated and occupied by luxurous coffee, sugar and corn plantations, while the regions of the Pacific and of the Atlantic slope are covered with extensive primeval forests.

The climate of the region of the Atlantic slope is distinguished by great regurlarity of temperature, constancy of direction of the wind, constancy of relative humidity of the air, and lastly, by the absence of a well marked dry period. In the harbor of Limon there is a mean temperature of 79° F., whereas the maximum is 89° F. and the minimum is 70° F. The barometer ranges between 750 and 755 mm.; the relative humidity fluctuates between 100 and 73 per cent.; the number of rainy days is about 200, and the amount rain is 100 inches. Those periods during which it rains uninterruptedly for a week or longer are called "temporales." The wind has all the year a northeasterly direction.

From this the physical condition of the Pacific slope differs considerably.

The yearly medium of the temperature is only 74° F., while the maximum is 86° F., and the minimum is 65° F. The number of rainy days is less by 50 than in the region of the Atlantic slope, hence the quantity of rain is only from 70 to 80 inches. There prevails a northeastern wind during the dry season, while its force decreases so far during the rainy season that local sea-winds take its place. Besides, the daily oscillations of the temperature are more marked, and the character of the dry season is more pronounced.

The plateau of San Jose has also a decidedly marked dry season, and receives a lesser quantity of rain than the other regions, amounting to from 50 to 60 inches yearly. The number of rainy days is from 160 to 180; the temperature is, in general, lower than in the other regions, its medium being only 69° F., its maximum 86° F., and its minimum 53° F.; though the wind has generally a northeastern direction, there is a sea-wind from the Pacific prevailing with the commencement of the rainy season. During the dry season there was noticed a humidity of only 50 per cent., but it increases rapidly to 80 and 90 per cent. with the spring; this change brings forth then numerous cases of disease.

The country is only thinly populated; the people are principally employed in breeding cattle and in farming. Their needs are limited to the first necessaries of life; near the coast they live in frame houses or in huts with walls of bamboo, and a roof sometimes of palm leaves, sometimes of tiles; the two-story frame houses are the best buildings with reference to health, as only their second story is inhabited, where the occupants are the least affected by influences of the ground. Not much better than the bamboo huts are the houses built on the plateau. They have clay walls and a roof of tiles; their floors consist, in most cases, of clay, but they are also made of brick, and, of late, of wood; as all the buildings on the plateau have, on account of the earthquakes, only one story, the state of health of their occupants must of course be largely affected by the condition of the ground upon which they are erected. In connection herewith we dare not omit to make mention of the manner in which the privies are arranged. They are in reality mere cesspools, over which a sitting-board is placed. When they are filled they are covered, and another hole is dug in their neighborhood; the surrounding ground becomes, in this manner, after a time, infiltrated and infected, whereby great injury to health is caused. This is so much more the case as wells are often situated in proximity to the privies, and receive from this source a variety of soluble substances besides those always found in considerable quantities in the ground of the country. Not much better is the water in the rivulets, which becomes contaminated by all kinds of waste material.

The principal nourishment of the people is prepared from beans, Indian corn and bananas; great quantities of meat are also consumed. Of stimulants, now-a-days, coffee has taken the place of coco, which formerly was much used, and great quantities of spirits are consumed; tobacco is used by adults and children.

The people are clad in woolen and cotton stuffs, but a large number of them—the peasants—seldom wear stockings or shoes. The wealthier persons are dressed after the French fashion.

Costa Rica has about 120,000 inhabitants. There were registered in one year 48 p. mille births and only 21 p. mille deaths among this population. Of 2,689 persons deceased in 1867, there died of fever 785, of dysentery 518, of hydrops 93, of pulmonary consumption 16, of convulsions of childhood 146, of pertussis 406, of other lung diseases 38, and of various diseases 687. These figures show that, compared with more northern climates, we meet diseases of the lungs seldom in Costa Rica, while on the other hand diseases affecting the alimentary canal are prevalent.

RELATION OF MAN TO TROPICAL CLIMATE.

In what manner the tropical climate alters the physiological condition of man, and how far diseases are influenced thereby, the author explains in certain points differently from others.

It is well known that, other things being equal, perspiration increases under a higher pressure. Now, constant perspiration is a sign of good health in tropical regions. The skin gets richer in blood on account of its greater activity, in return for which other parts become poorer of it and their watery excretions decrease in quantity. This is very remarkable for the excretion of the kidneys in tropical regions; likewise the secretions of the intestines become less watery; the fæces are dry and costiveness is often met with. It is provoking, therefore, to find it stated in some reports on tropical diseases that the secretion of bile is increased during the first stay in southern climates As the internal organs contain less blood in such a case, the pressure in the portal vein must be diminished, and consequently there is *less* bile secreted. Moreover, if little nourishment is taken, especially less albuminous substances, the quantity of bile decreases likewise. Now, people take less food when under the influence of a higher temperature, provided other things be equal. There is also a certain proportion between the excretion of carbon by respiration and by the secretion of bile, *i. e.*, the more carbon is exhaled the more bile is secreted. As in tropical regions the production of carbonic acid is diminished, the same happens to the secretion of bile. Bile favors the absorption of fat, but men living within the tropics cannot digest so much fat as those living in more polar regions, consequently they secrete less bile than these.

It is true that a greater quantity of bile is secreted if much water is drank, no matter under what climate. Though there is much water taken by people within the tropics, they drink only little at once, and in this manner their secretion of bile is not influenced. Much water taken at once and repeatedly, causes only the secretion of a very watery bile. All these facts prove that the activity of the liver is decreased and not increased under the influence of higher temperature. The same is true of the pancreas.

The activity of the skin becomes less lively in tropical regions with persons who change their residences and move to places situated at a greater altitude, where the temperature is lower and at the same time the pressure of the atmosphere is decreased. The quantity of the excreted urine increases under the same influences, likewise the excretions of the intestinal walls. Therefore people are easily attacked by diarrhea. Women lose more blood with the catamenial flow on the plateau than near the coast. The respiration is more easy on the plateau than in the coast districts, even if the relative humidity is equal in both regions, as the diffusion of gases from the lung surface increases with the decrease of pressure of the atmosphere.

Special notice is taken in the author's treatise only of those diseases which are in a certain connection with the climate of Costa Rica, and which have a peculiar influence over its inhabitants. As the most important for this region, as well as for all tropical countries, the doctor points out

MALARIAL DISEASES.

They are spread over the whole country, and depend, as far as intensity is concerned, upon local causes. The malarial diseases may become as grave on the plateau as on the coast, though they do not occur there so often as here. The frequent appearance of malaria in certain years must be explained with the extension of public roads made at such periods, and with the culture of newly laid out coffee plantations.

A regular fever attack or a neuralgic affection is not always a sequel of an infection with malaria. Besides, regular tertian forms come rarely under the treatment of a physician But those undeveloped forms, with fever attacks lasting for several days, are oftener met with, and yet their diagnosis is made with difficulty, *i. e.*, in the beginning. The physician should always examine the spleen in the first place when in malarial regions, even if there is no ground for the slightest suspicion that malarial infection may have occurred. Such an examination is often troublesome in climates where gastric affections are prevalent as in Costa Rica. It is advisable under all circumstances to free the bowels from their contents by cold water clysters for the examination. In case the spleen is found in an enlarged state, it must be generally attributed to malaria in Costa Rica. The temperature must, of course, be measured often and at regular intervals, the more so as not seldom cases of malarial infection are met with which may easily be confounded with typhoid fever; for, in place of bronchitis, which accompanies malarial fever in colder climates often, but more rarely in these tropical regions, it is complicated with catarrhal or diphtheritic affections of the intestines. Malarial neuralgia, especially of the trifacial, is comparatively often met with. In short, malarial disease has in Costa Rica, as well as elsewhere, a protean appearance. While it is true that an attack of malarial fever may be called forth by any kind of malaise, it may also be provoked by powerful therapeutical interferences, and this indeed often takes place Persons who have been unwell for a few days, prostrated, had head-ache, suffered from costiveness, become suddenly attacked with fever, after having taken a strong purgative. A mild clyster would have done much better in such a case for the patient.

It is of importance to avoid every fever attack in order to cure malarial fever, as every attack provokes another one. The best remedy in acute as well as in chronic cases is quinine. Much depends upon the time at which and upon the dose in which it is given; besides all symptoms of other disease must be traced, and should it be found that a certain malaise provoked the fever attack, it must be taken under treatment. To infants under one year there should be given from i gr. to iss. gr. pro doso, several times a day, according to circumstances. Children of two years should take iss. to iii gr., and those of three years and more should take from iii gr. to v gr.; but no more than viii gr. should be given to children of ten years, for adults seldom need larger doses. As quinine does not act with certainty if given in pills or powders, even when twice the dose is given, it is best ordered to be taken with water in which a few drops of acid sulph. dil., or acid citric. is dissolved. In case the patient's stomach cannot bear this kind of medication, it is advisable to cause an enema of twice the dose, made up with starch, to be thrown into the large intestines, after cleansing this first by a clyster of tepid water. With these methods the author overcame all difficulties, so that he never was compelled to make use of the most powerfully acting application of quinine—the subcutaneous injection. This method is only commended when life should come in immediate danger.

In case the fever has a quotidian or tertian type, the quinine is best given two or four hours before an attack, and should it fail to prevent the paroxysm, a second dose must be given twelve hours later, a third dose twenty-four hours later, a fourth dose forty-eight hours later, etc. Though two doses often suffice, it is best to give four or five doses. Should the attacks still continue, two doses daily may be given for four or five days, but it would be useless to continue any longer with the treatment, should the attacks then not be completely suppressed. If the patient has only an enlarged spleen, headache, no appetite, and his regular perspiration becomes interrupted, he should take one dose of quinine at once, one after twelve and another after twenty-four hours. The same method must be pursued in cases of malarial neuralgia. But besides quinine the patient must take indispensably large quantities of lemonade, to promote the secretion of urine and perspiration. In order not to disturb the latter, the patient must lie in bed. All nourishment which he takes for several days must have a liquid form. If a fever attack is provoked by a malaise which cannot be removed (menstruation), a dose of quinine is given every day till the cause ceases to act. When a patient has been treated for several weeks and has not recovered during such period, it is necessary to send him to a more healthy region, which may be done easily in Costa Rica. When arrived there, he must, of course, continue to be a subject for treatment.

Of late it has been advised to use quinine as a prophylactic in malarial regions. When a person wants to stay only for some days or weeks in such places, it is prudent to take a full dose of quinine every day or every second day, and to drink regularly lemonade; whereas, a person living in such a place constantly, should take quinine only when necessary.

DYSENTERY

is often, but not always, caused by a local state of the ground. The appearance of dysentery in Costa Rica is connected with the changes of seasons. The number of patients grows with the rainy season. Increased humidity of the atmosphere and no other cause, especially no change in the style of living, which is the same all the year, accounts for the prevalence of the disease. Perspiration is then more or less suppressed, and kidneys and intestines act vicariously for the skin. When the skin becomes in such cases more stimulated, either by increased temperature or by change of climate, a vicarious diarrhea may be cured. Such patients are apt to be attacked with dysentery when coming under the influence of a ground which is impregnated with decaying matter, using spoilt drinking water, or bearing retained fæcal masses in their bowels, which become decomposed and absorbed. An acute attack of dysentery may also come on within a few hours, when the skin is suddenly cooled. In case its activity is energetically restored, when large doses of ipecac cause a free perspiration, and if there is not acting some other cause, the patient may recover in a few days.

Fruits are often accused of causing dysentery, but only those containing much cellulose (pine apple), which irritates the intestines, may, on this account, sometimes contribute to its development. All fruits which cause constipation may favor dysentery. Healthy persons attacked by dysentery will get over it in a week or less, and have hardly any attack of fever, but children and weak persons are invaded by fever analogous to catarrhal fever. In many cases the disease commences with catarrhal stools, which become rapidly diphtheritic. Should the lower part of the large intestines be attacked in the beginning, tenesmus is often observed at once. In the further course of the disease there may again appear fever without any complication with other diseases, and the temperature may raise to even 104° F. Typhus symptoms accompany the fever, and the patient's life ceases by exhaustion. At other times the fever attack is only short, the patient becomes collapsed, apathetic, somnolent; he has stools without being conscious, and death comes on as in the second feverless state of yellow fever. The patient's condition becomes also dangerous when the infective fever coincides with the invasive fever. In this case the numerous bleeding parts of the intestines absorb the putrid substances; for, we can not overlook the fact that the coagulated blood, as well as the catarrhal and diphtheritic matter, is often retained for a long period in the intestines, especially should the s. romanum or the cœcum be paralyzed, which very often takes place.

Complications with other diseases will often alter the type of dysentery. This is not seldom combined with diseases of the stomach and with malarial fever. The diagnosis is confirmed in such cases by the peculiar stools. Profuse hemorrhage, or fresh blood besides that which is in a state of putrefaction, or many pus corpuscles in the stools will make prognosis worse. Tenesmus is a very unpleasant symptom to the patient, the more so when the number of evacuations is between 60 and 200 within twenty-four hours. In severe cases there takes place paralysis of the sphincters. Sometimes the valve of the cœcum is closed by cramps, and there is then no trace of bile to discover, and for twenty-four or forty-eight hours the stools contain only excretions of the colon, till at once they get normally colored. Should dullness on percussion be caused by abnormal contents of the intestine, a copious clyster of tepid water must be given.

Clysters generally play a prominent part in the treatment of dysentery They should at least be applied three times a day to free the bowels from all noxious matter. Besides, albumen dissolved in water, meat extract, water gruel, barley gruel, and, after some days, milk should be given. Of medicines there may be ordered morphine and diluted muriatic acid, especially when there is abdominal pain. Against the tenesmus atrop. sulph. was found to be of service Patients who do not recover under this treatment must change the climate before there is any hope that their illness will be ended. But this requisite may easily be complied with in Costa Rica, where, in any of the settlements, different climates may be found in a not distant neighborhood.

DISEASES OF THE ALIMENTARY SYSTEM.

On several occasions it has been already hinted that malarial fever may be provoked or is complicated by diseases of the alimentary canal, or that dysentery may be connected with gastric disease, or with affections of the smaller intestine and the liver Gastric catarrh or diarrhea is caused, aside from those influences relating to the climate, by the food in many instances. It is an old prejudice to think that vegetables constitute a better nourishment within the tropics for men than meat does. This is not true, as many nations in those regions live more or less upon meat. The inhabitants of the South American republics, who consume meat as their principal food, enjoy excellent health.

The best food within the tropics is the banana which contains albumen and the hydrates of carbon in the right proportion, 1.4. Next to this comes the crude juice of sugar, in which is much sugar and large quantities of albumen. It cannot well be recommended as a constant food on account of readily undergoing fermentation, whereby the stomach becomes disordered. Chronic gastric catarrh is also caused and maintained by substances containing starch. As such, we have to designate all kinds of bread, wherefore no complete cure of that disease can be performed if bread is eaten so long as it continues. Raw meat is well borne under such circumstances in higher latitudes as well as within the tropics. Accordingly, meat, if taken with the necessary quantity of hydrates of carbon, will be a suitable nutriment for the people in tropical regions. The beans are prepared with too much fat to constitute a healthy food. The same must be remarked of the bananas, when roasted in fat or when eaten in an unripe state. The so-called dulce, an inspissated juice of sugar, which is much used, also causes gastric affections, from reasons already explained. Cucumbers and melons must be noted for the same reason.

Though spirits are not so much used as under higher latitudes, the consequences of their misuse develop more rapidly there. Probably nearly all cases of death from cirrhosis of the liver are caused by intemperance. Liver diseases seem to occur rarely, notwithstanding their diagnosis is made readily if a person only has lost appetite, if he has a bitter taste in his mouth, if he has head-ache, and if abdominal swel ing is present. The peculiar yellow tint in malarial diseases is likewise ascribed to disease of the liver, and when the patient at last vomits some bile, the diagnosis of too much production of bile is invincible. The treatment of the diseases mentioned here is the same as in other climates.

VARIOUS DISEASES.

Lung diseases are comparatively rare, especially phthisis, from which there seems to be complete immunity. Foreigners attacked with this disease recover often in Central America. The plateaus of Costa Rica, St. Salvador and Guatemala have the best climate for such patients.

Diseases of the heart and vessels do not so often occur as is generally believed. The most cases of death from hydrops were occasioned by malarial diseases, dysentery and cirrhosis of the liver, not by heart diseases.

Among diseases of the nervous system delirium tremens is often seen, and is a more dangerous affection than in colder climates.

Diseases of the kidneys are very rare in Costa Rica as well as within the tropics in general. Therefore patients attacked by such should be sent to tropical regions, with a dry atmosphere.

Yellow fever was not observed in Costa Rica. Two epidemics which are recorded proved to be only epidemics of remittent fever. A few deaths caused by yellow fever were observed by the doctor in the border States. All other contagious diseases may come under notice occasionally, and if they cause epidemics, the bills o mortality get large.

Bronchocele is often to be noticed, especially in the narrow valleys of the highlands.

To the cases of eye diseases which came to the doctor's knowledge, myopia contributed a remarkably small number, which may be explained by the fact that the majority of the people can neither read nor write. Iritis and glaucoma are often met with. As no well educated obstetricians practice in the country, the physician often observes diseases peculiar to women, acquired in childbed.

Here we conclude our summary, from which the reader will have seen that diseases in the tropics are the same as in other parts of the world, and that the only difference between these regions, as far as diseases are concerned, consists in the proportion in which they appear. It seems as if in Central America the diseases which prevail are not beyond the reach of professional skill.—*Detroit Review of Med*

TREATMENT OF ECZEMA IN CHILDREN.—Dr. Calpari in the *Bulletin de Therapeutique*, as quoted in *The Doctor*, extols the effect of lime-water in curing eczema of the head and empetigo of the face in children, especially chronic cases which have resisted other treatment, and states that a marked improvement is noticeable after using it for eight days. He recommends to take it in quantities varying up to half a pint, according to the age of the patient, and to dust the part with carbonate of magnesia ; but the latter he considers necessary only when the secretion is very irritant.

CHINESE MEDICINE.

Through the kindness of J. G. Kerr, M. D., for a long time a resident in China, we are furnished with a paper on Chinese medicine prepared by him, together with a diagram illustrating the state of anatomical knowledge in that country. The diagram is a reduced copy of one issued by authority of the Imperial College at Pekin and published in books and sheets, which are to be had at any of the book stores. We proceed to select some passages from Dr. Kerr's pamphlet:

"While the esophagus is rightly made to pass into the stomach, the windpipe goes through the lungs into the heart, and three tubes passing posteriorly from the heart connect it with the spleen, the liver and the kidneys.

"The kidneys are shown in the diagram to be connected with the spinal column, and from them originates a subtle influence which passes upward to the brain and downward to the spermatic cords. One of the three tubes issuing from the heart enters the kidneys, and thus they have a connection, *purely imaginary*, with the brain, heart, and generative organs, giving them a place of the first importance in the animal economy, as is indicated by the location between them of the Ming Mun, the gate of life.

"These and other false notions have been handed down undisputed through many generations, and carry with them the authority of sages who have all this time been worshipped as superior beings. It would be a bold hand that would strike a blow at such sacred relics.

"The fact of the circulation of the blood seems to have been known to the Chinese in ancient times. But of course no true notion of the circulation, or of the functions of arteries and veins as distributing and returning the blood, has ever been developed. Air and blood are both supposed to permeate the body, but in tubes which have only an imaginary existence, as may be seen in diagrams which exhibit the theories of the pulse.

"The study of the pulse has been a favorite one for the Chinese physician in all ages, for it afforded his practised fingers some clue to the disease, and at the same time afforded a cloak to cover his ignorance, which the poor patient could not distinguish from a garment of profound knowledge. It is most marvelous with what eyes the Chinese doctor looks into his patient through the pulse. His three fingers play on the three points of each wrist, and the twenty-four indications at each of these points exhibit to his mind's eye the exact state of all the organs, and he can not only tell the disease and its locality, but even decide the sex of the undeveloped fetus. To detail the minute relations of the three pulses in each wrist with the internal organs would weary and disgust the reader. How such dreamy nonsense could be handed down from age to age and be universally received, is a most astonishing instance of man's credulity.

"There is, however, one department of medicine in which the physicians of China may be supposed by some to have attained a knowledge in advance of their theories, and superior even to what is possessed by western agents. Their materia medica presents us a most imposing list of remedial agents derived from the animal, vegetable and mineral kingdoms. The "Pun Tso," the standard work on materia medica, contains a list of nearly 1900 substances used in medicine. The description of their properties and uses, and their combination in 11.896 formula, contained in the Pun Tso, is from the works of over 800 authors. We have here an amount of experience and observation in the use of medicines with scarcely a parallel in the world—a mine which only needs to be explored to yield us treasures of knowledge.

"The practice of medicine is in all countries more or less empirical, that is, founded on experience, and we therefore have a right to look for some substantial addition to our means of combating disease from the accumulated experience of ages which is recorded in Chinese books. We have, however, been disappointed. No one can call to mind a single remedy or mode of cure for which we are indebted to the physicians of the oldest and most populous nation on the globe.

"An examination of their medicines and the theory of using them will explain why this is so.

"If we divide the Chinese medicines into two classes, first, such as are used in common by Chinese and western nations, and second, such as are peculiar to the Chinese, we shall find that the properties and uses of the first class are much better understood by western nations than by the Chinese.

"We shall also find that of the second-class a great many are absolutely inert, and many of them disgusting as well as inert. The use of so many medicines that are absolutely inert, and to some of which such wonderful virtues are attached that they are sold at fabulously high prices, demonstrates to us the inability of Chinese physicians to make accurate observations. All confidence is also lost in the results of their experience in the use of active medicines. Ginseng is an example to the point. Both the native and foreign root are in universal use, but the former is much more highly valued, and choice specimens are sometimes sold for one hundred times their weight in silver. While this article is entirely rejected by western physicians, its virtues in many diseases are so highly esteemed that it enters as an essential ingredient into numerous native prescriptions. The same is true with regard to pearls, tigers' bones, rhinoceros' horns, petrified dragons' teeth, fossil bones and numerous other articles, which are absolutely without medicinal virtue, so that we cannot receive statements of the curative virtues of any substance from a Chinese source, as having any authority. In all their observations, they fail to separate the true from the false, the real from the apparent. In other words, their experience, because it is not corrected by science, is altogether valueless or at least unreliable.

"On further inquiry into the principles on which Chinese medicines are used, it becomes apparent to the most casual observer, that no confidence is to be placed in their deductions from the effects of medicines. The high value attached to ginseng is because of the real or fancied resemblance of the root to the form of the human body.

"In the absence of reliable knowledge, the human mind has ever sought for some theory to satisfy the demands of inquiring minds. The Chinese have accomplished this by the invention of the theory of the 'Yam and Yeung,' which in their speculations are two principles or powers in nature, the male and female, ever active in producing the physical, chemical and vital phenomena which occur within and around us. Not only are all the obscure phenomena of inorganic change accounted for by the action and re-action of these powers, but the occult processes of living bodies in all the complicated actions of their organs, both in health and disease, are explained by calling in the aid of these imaginary principles. Each of the organs of the body is the seat of one or the other of these principles, and when they are equalized, there is repose or a state of health. If the male principle is in the ascendant, there is disease and it is inflammatory. If the female principle predominates, the disease is of a low or typhoid character. There is also the relation of the organs to heat and cold, wetness and dryness, and the mutual relations, actions and re-actions on each other and the human body, which make up an amount of absurdity truly wonderful, but venerable for its antiquity.

"The application of medicines to the cure of disease, is guided, not by their known therapeutical properties, but by certain fanciful relations supposed to subsist between the organs of the body and the five elements, viz: earth, wood, metal, water and fire on the one part, and between these elements and medicinal substances on the other. For example, each of the five organs, the heart, lungs, liver, spleen and kidneys, is related to one of the five elements, and the relation of medicines, in color, taste, etc., to the five elements, determines their uses. Thus, the liver is related to the element wood, and as metal has control over wood, medicines related to the element metal are those which are, for this reason, applicable to the cure of disorders of the liver. So with regard to all the medicines and all the organs of the body.

"In this paper no reference has been made to surgery, because it has no existence in China. The simplest appliances in this department are unknown. In the surgical remedies which western science and skill have perfected, the Chinese have a boon offered to them, which they admit to be without any rival, at least in modern times.

"It will not be an inappropriate conclusion to this article to name a few of the most important medicines which are constantly used by western physicians, but are unknown to the Chinese, or have been so until recently—viz: Sulphate of quinine, iodine, iodide of potassium and all other compounds of potash except nitre, carbonates of soda, and all compounds of sodium except common salt and glauber salts, magnesia and its compounds, tartar emetic and compounds of antimony, ammonia and all its compounds, the salts of zinc, acids, mineral and vegetable, except vinegar, lunar caustic, oil of turpentine, chloroform, ethers, morphia, santonin, tannin, and all the vegetable alkaloids, cod liver oil, etc., etc.—*Pa. Med. & Surg. Jour.*

THERAPEUTICS OF ACUTE RHEUMATISM.

Few more humiliating conclusions have been arrived at in therapeutics than that which a leading physician in London came to about ten years ago, as the result of his hospital experience—viz., that medicine had nothing more efficacious to oppose to the course of rheumatic fever than mint-water! Not that it did any good, but that nothing else materially affected the course of the disease. We never believed in this conclusion, and we do not now. If it was justifiable then, we venture to hope that it is no longer so. We have lately published accounts of the action of salicin and salicylic acid in acute rheumatism in a certain number of cases, which seem scarcely to allow us to doubt that these substances cut short the process of acute rheumatism as certainly as quinine cuts short the process of intermittent fever. Dr. Maclagan, of Dundee, explained, in *The Lancet* of March 11th, how he came, quite independently of, and prior to, any other physician, to treat rheumatic fever with salicin. He regarded the disease as miasmatic in its origin, like ague, and likely, therefore, to yield to a medicine of virtue in intermittents. This theory is of little consequence. We think it almost certainly a wrong one. But it led him happily to the use of salicin, and the salicin stopped the rheumatic fever in six or seven cases. That is to say, that a patient, with anxious face, a temperature of 102° and over, acid sweats, joint pains, etc., would, in twenty-four or forty-eight hours after, experience a great diminution of pain and a fall of two or three degrees of temperature, and in four or five days be free from pain and convalescent. In other words, the course of the malady was changed from that of a disease requiring six weeks to that of a febricula, extending over less than six days before the return to a normal temperature and entire freedom from pain. This is a promising result, and, if it should be confirmed by a larger experience, will be a matter of congratulation to mankind. On the 8th of April our "Mirror" contained particulars of four cases treated in St. Mary's Hospital by Dr. Broadbent with, not salicin, but salicylic acid, in accordance with the practice of Stricker, of Berlin. The results were as striking as in Dr. Maclagan's cases. Temperature came down rapidly, and pain was relieved quickly.

We cannot forbear noticing in an editorial way such important therapeutical statements as these, if it were only for the purpose of asking practitioners without delay to test them by a use of the remedy in similar cases. Dr. Maclagan gives salicin in preference to salicylic acid. Doubtless the action of both in rheumatic fever is identical, but he gives good reasons for preferring salicin. We must guard our readers from supposing that we consider the power of salicin or salicylic acid settled by these experiments. It will take a very much larger number of cases to decide this question or any similar one. We have too often been lifted up in regard to the power of medicines only to be cast down again. But enough has been done of late years to make us more hopeful and less sceptical. Dr. Wilson Fox's results in cases of rheumatic hyperpyrexia, the effects of veratrum viride in the hands of Dr. Silver in relieving pain and reducing temperature in the disease under consideration, the similar effects in other hands of quinine in conjunction with alkalies and opiates, warrant us in hoping that rheumatic fever will soon be recognized as one of the diseases in which physicians can be something more than students of natural history. We shall be glad to publish well-reported cases bearing on the efficacy of the salicin or salicylic acid.—*The Lancet.*

PNEUMATOMETRY.

M. Schuppert remarks that pneumatometry, which is quite different from spirometry, was introduced as a means of diagnosis by L. Waldenburg, in 1871. Spirometry deals with the vital capacity of the chest, which depends chiefly upon the circumference and height of the thorax, while in pneumatometry the height of the thorax has no influence, and the proceeding is based upon the results obtained with a manometric instrument called a pneumatometer, which serves to measure the power of inspiration and expiration. The difference in the height of the column of mercury of both tubes under the action of expiration gives the measure of the positive pressure of expiration. In inspiration we obtain the negative pressure of inspiration. The pneumatometric numbers result from three factors: 1. The power of the respiratory muscles; 2. The mobility of the thorax and expansion of the lungs; and 3. Of the elasticity of the parenchyma of the lungs. The value of pneumatometry is that it has rendered it possible to examine into the exact nature of a dyspnœa, to prove if it be inspiratory or expiratory, or a combination of both; and it further enables every deviation of respiration from its normality to be recognized, and the existence of disease, even when incipient, to be detected. The lightest forms of emphysema, insufficient elasticity of the lungs, or an abnormal respiration, may thus be determined, which would escape every other method of examination. M. Schuppert explains the special notation used with the instrument. He states that in a great number of cases in which Waldenburg could not find with the help of auscultation and percussion, if bronchitis or phthisis, with or without emphysema, was present, he could decide the diagnosis at once in using his pneumatometer.—*N. O. Med. and Surg. Jour.*

Gleanings.

Poisonous Properties of a Series of Alcohols.—M. Andige (*La France Medicale—Medical Times*, September 11, 1875) reports the results of a series of experiments on some of the alcohols produced by fermentation, including ethylic, propylic, butylic and amylic alcohol:

1. The toxic properties of this series follows mathematically their atomic composition. Whenever the latter is represented by high numbers, the poisonous action is marked, and this is the case whether the alcohol has been introduced through the skin or by the stomach.
2. For the same alcohol the toxic effect is greater when it has been given by the stomach than when it has been administered through the skin. In the latter case the dilution of the alcohol augments its action.
3. The phenomena observed appear to be the same in general, except in the degree of intensity, whichever alcohol be employed.

The lesions produced also follow an increasing order from ethylic to amylic alcohol. The disturbances of the intestinal mucous membrane are all as intense when the alcohol has been given hypodermically, as when it was given by the mouth. With the same alcohol pulmonary congestion and apoplexy were more frequent when it had been given by the stomach.

Chronic Dysentery Cured by Topical Treatment.—Dr. T. G. Thomas (*N. Y. Med. Jour.*, Jan., 1876) reports a case of chronic dysentery of five years standing cured by three applications of nitric acid to the ulcerated rectum. The patient was anæsthetized—placed in the left lateral position, and, after stretch of the sphincter ani by the finger, a long duck-bill speculum was introduced. This was held by the nurse, exactly as in vaginal examinations, while by a depressor the anterior rectal wall was pressed downwards. The whole rectal canal was now exposed, to the sigmoid flexure. By a syringe it was cleansed of all fæcal matter. Throughout its whole extent the exposed intestine was seen swollen, œdematous, hanging in hemorrhoidal masses studded with deep ulcers, having grayish bottoms. It was greatly engorged and presented that deep red almost violet hue, which is seen in the throat in cases of diphtheria. By cotton on a rod nitric acid was lightly applied to the ulcers and swollen mucous membrane.

After the third application, within a period of one month, the patient was entirely well.

Use of Salicylic Acid in Diphtheria.—Dr. H. Schultze, of Eringshausen, communicates to the *Allgemeine Medicinische Central Zeitung* for February 16, a contribution on the use of salicylic acid in diphtheria. He says that he has given it in two cases of scarlatinal sore-throat in children aged ten and twelve years, and in twelve cases of primary diphtheria in twelve children aged from one to eight years. In the two scarlatinal cases, and in some of the others, there were extensive deposits in the fauces and adjacent parts, extending to the glottis and nares. These cases were treated twice or three times daily in the following manner: As much salicylic acid as possible was taken up on a moistened brush, which was then applied carefully to the affected parts. In some cases it was necessary to leave the carrying out of this treatment to the attendants, after they had been shown how to do it. At the same time salicylic acid was given internally, in combination with mucilage and water. The result of the treatment in ten cases in which it was employed was, that in some the diphtheritic exudation was diminished on the first day, the general symptoms in all were improved, and in some cases it was necessary to continue the local application after the fifth day. At this time the mucous membrane of the fauces was either more of a red color, or was coated in some parts with a very fine bluish-white layer, not due to diphtheria, but as Dr. Letzerich has pointed out, to an effect of the action of the salicylic acid on the epithelium.

In one case (a girl, aged eight), the treatment failed to arrest the formation of diphtheritic membrane, which became very extensive and thick, so that it was necessary to remove it. The patient recovered.

In three cases the diphtheria was confined to the larynx, the symptoms being those of obstruction of the part. Dr. Schultze gave salicylic acid in mixture; but in two instances the symptoms were so severe that he performed tracheotomy; both children died. The third child probably recovered; it resided in an elevated and isolated locality, and perhaps suffered only from laryngeal catarrh.

The result of the two cases of primary laryngeal diphtheria show how powerless we are in this affection, even with salicylic acid.—*London Medical Record*, May 15, 1876.

Diphtheria of the Intestine.—A. Rajawsky (*Centralblatt fur die Med. Wissenschaften—Med. Times.* December 25, 1872), from observations of diphtheritic processes of the human intestine, concludes:

1. Diphtheria of the intestine is always preceded by a catarrhal affection.

2. The commencement of diphtheria is characterized by a deposit of a fibrinous exudation, which collects in the mucous membrane and on its surface.

3. This is followed by death of the tissue of the mucous membrane, and its metamorphosis into a granular mass containing albumen. This destructive process extends, and at the same time a hyaline metamorphosis of the blood vessels appears in the altered tissues.

4. Micrococci and bacteria are found both in the altered and in the unaltered tissue, in the former in colonies, in the latter dispersed singly. Even at a time when the tissue has not become fluid, canals filled with bacteria can be found in the sub-mucous layer. Experiments made upon rabbits show that diphtheria of the intestine can be artificially induced by injection of fluids containing bacteria into the blood only after the intestinal mucous membrane has undergone changes of an inflammatory character.

Acute Rheumatism Treated by Salicin.—Dr. T. MacLagan (*London Lancet*) reports eight carefully observed cases of rheumatism treated by salicin. From these he concludes:

1. We have in salicin a valuable remedy in the treatment of acute rheumatism.

2. The more acute the case, the more marked the benefit produced.

3. In acute cases its beneficial action is generally apparent within twenty-four—always within forty-eight—hours of its administration in sufficient dose.

4. Given thus at the commencement of the attack, it seems sometimes to arrest the course of the malady as effectively as quinine cures an ague, or ipecacuanha a dysentery.

5. The relief of pain is always one of the earliest effects produced.

6. In acute cases, relief of pain and a fall of temperature generally occur simultaneously.

7. In sub-acute cases, the pain is sometimes decidedly relieved before the temperature begins to fall. This is especially the case when, as is frequently observed in those of nervous temperament, the pain is proportionally greater than the abnormal rise of temperature.

8. In chronic rheumatism, salicin sometimes does good where other remedies fail, but it also sometimes fails where others do good.

Microscopy.

NECESSARY MANIPULATION OF THE MICROSCOPE TO EXHIBIT FINE STRIÆ.

From *Boston Jour. Chemistry.*

Recent measurements of the Moller probe platte, place the transverse striæ of No 18 at 80, No. 19 at 84, and No. 20 at 93, in .001 of an English inch. The 19th band of the Moller plate measure 112,600 lines to the English inch. To display lines so exceedingly delicate requires attention to certain conditions, as also delicacy in manipulation.

ILLUMINATION.

The very best illumination for microscope purposes is that of monochromatic sunlight. Most observers are, however, compelled to work at night, and hence resort must be had to artificial light. The German student lamp will be found to give excellent results, provided its glasss chimney be kept perfectly clean and clear. After the lamp has been burning a few moments the chimney should be closely observed, and should the flame appear the *least* obscured, the chimney should be repolished. A chimney that appears perfectly brilliant while cold will often become cloudy when heated, and to an extent sufficient to defeat the work in hand.

The microscope stand is a matter of the first importance. A poor stand (and there are plenty of them sold at enormous prices), will defeat both objective and manipulator; costly and complicated stands furnished with mechanical stage and sub-stage, condensers, prisms, etc., are not recommended. The *best* microscope work can be done on stands of American make, costing, with thin revolving stage and two eye-pieces, not more than $100. The stage should be at least four inches in diameter; the stage plate should be not more than 1-5 of an inch thick on the outer edge, and bevelled on the under side so as to leave it, say, 1-16 thick at the well hole. The diaphragm box should be an extra plate, arranged to "ship" on and off instantly. The mirror should be carried on a radial arm which should describe an arc of at least 80° from the axis, so that the side of the arm can be brought into contact with the under side of the stage; the mirror should also be arranged to slide on the radial arm.

To adjust the mirror to its focus, place a piece of white card board on the stage. With the mirror at 90° from axis, reflect the beam from *lamp* eighteen inches distant on to the card. Now move the mirror on the radial arm until a tolerably distinct image of the lamp flame is seen on the under side of the card-board; it will be well to mark the position thus determined, on the radial arm.

A bull's-eye condenser of two inches diameter, plano-convex, mounted on adjustable stand, is also required.

Now to attack the Moller plate. Select a commodious table; place the stand thereon, near the right hand and at such a distance from the front as will allow you to manipulate the mirror while you use the front edge of the table as a rest for the fore-arm. The tube of the microscope being inclined to a convenient angle, swing the mirror to its utmost obliquity, *i. e.*, the radial arm in contact with stage. Now place the lamp 18 or 20 inches distant from the mirror, the flame to be five inches higher than the level of the stage, and the same distance in advance of its front edge. Next place the bull's-eye condenser *flat* side to the lamp and four inches distant, and arrange to condense the parallel rays on the mirror, at the same time adjusting the latter so as to reflect the light to the centre of the well hole; now place the plate in the object carrier, screw the duplex objective to its place, and make contact with glycerine in the place of water; commence (with either 1-6 or 1-10 objective) with the one inch eye-piece

On looking through the tube a slight change of mirror may be necessary to obtain a lighter field; this done, bring No. 12 (gram. subtilis.) into position.

If the instructions I have given are correctly put in practice, the field should be brilliantly illuminated, but with altogether too much obliquity to display the No 12 lines as they should be shown; if from any cause the field should be poorly lighted; the error must be eliminated before proceeding further.

J. EDWARDS SMITH.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

The regular meeting of the San Francisco Microscopical Society was held on Thursday evening last, with Vice-President H. C. Hyde in the chair. In addition to a full attendance of members, Mr. Edwin S. Cramp, of Philadelphia, was present as a visitor.

After the reading of the minutes was disposed of, Mr. W. H. Rulofson was unanimously elected a resident member of the Society.

Under the head of additions to the Library, the Secretary announced the receipt of the *Journal Quekett Microscopical Club*, *Quarterly Journal Microscopical Science*, *American Naturalist*, *Cincinnati Medical News*, three numbers of *Nature*, two of *English Mechanic*, four of *Flora*, and three parts of *Grevillea*.

Dr. J. H. Wythe donated two slides mounted with *A. Ehrenbergii*, and *I. Nervosa* as opaque objects, which were obtained from Monterey Bay

Mr. J. P. Moore presented the Society with the fungoid growth which he described at the last meeting of the Society, and named *Agaricus tridens*. He made a statement to the effect that when the mycelium first begins to make its appearance on the timbers in the drifts of the mines, that it presents a pure white appearance, and seems to burst out of the wood. It is called by the miners, the Lily of the Mines

Mr. H. G. Hanks presented some specimens of gold on crystals of pyrites, which seemed to have been squeezed from the pyrites. He also presented a sample of pure ground coffee and another of the ground article of commerce which a microscopic examination by him showed to be nearly fifty per cent. chiccory.

Mr. Henry Edwards presented a quantity of diatomaceous earth from near Los Angelos containing many interesting fossil forms of the beautiful silicious frustules; and from the bottom of Lake Tahoe, six hundred feet below the surface, came similar forms to bear them company, obtained by Dr. Blake, on a recent visit to that locality. Dr. Blake also exhibited two varieties of eutomostraca, found in myriads in the surface waters of the same lake, but which were passed over for the present with a cursory examination.

Mr. J. P. Moore exhibited a super-stage, which he had caused to be made from a model described in the *Quekett Journal of Microscopy*, the advantages of which he stated at some length, and which he had verified recently.

Dr. J H. Wythe brought to the rooms his Crouch binocular instrument for the purpose of exhibiting some further improvements made in his oblique condenser and amplifier. His tests with a low power over *P. Angulatum* and *S. Gemma* for magnification and definition at the same time, were conclusive as to the merits of both accessories. Dr. Wythe stated to the members present that he had taken the liberty of dedicating his forthcoming work on microscopy to the San Francisco Microscopical Society, and that the volume was in press and would soon be out.

At the regular meeting on Thursday evening, Sept 21, there was a good attendence of members; Mr. J. C. Sanderling and Dr. C. M Bates, of this city, being present as visitors. The Vice-President, Mr. Hyde, was in the Chair, and after the reading of the minutes of last meeting, Dr. E. H Woosley, of Oakland, was elected a resident member of the Society.

A letter was recieved from Mr. O. C. Oliver, Corresponding Secretary of the State Microscopical Society of Illinois, asking for exchanges in the way of diatomaceous earths, and correspondence on subjects of material interest to the members of the Society.

Messrs. B. P. Flint & Co., of this city, sent the Society a sample of wool which was grown in Eastern Oregon, and found to possess the very remarkable feature of alternate growths of black and white in the staple throughout the whole fleece. Mr. Kinne took a portion for microscopic examination and mounting, and will probably report at the next meeting.

Additions to the library were received in the way of four numbers of Regensberg *Flora*, *Monthly Microscopical Journal* for September, *American Naturalist* for September, and two volumes of "Carpenter's Mental Physiology."

Mr, Ewing presented a variety of rock sections from Idaho and Washington Territory, while Mr Hanks shared with the society some material for mounting in the way of a leaf of *Eleagnus*, leaf of *Deutzia scabra*, skin of sole, section of borne of sword fish, section of hedgehog spine, hair of camel, fossil earth from Toombridge, and section of elephant's hair.

Mr. Moore donated a slide mounted by him with a leaf and section of the stem of *Laurencia*, and also presented some transverse and longitudinal sections of cones of *Pinus tuberculata*, from Blue Caffon, the latter being accompanied by the following very interesting paper on some peculiarities of the tree and fruit, which he had promised at a former meeting.

PINUS TUBERCULATA.

Gentlemen: In a recent visit to the Sierras I had an opportunity to make a study of some of the peculiarities of this very interestsng pine. It can not be said to be a common tree, in the ordinary acceptance of that term. It is mainly confined to the Sierras, and at an elevation of about 3000 feet. It seems to prefer the southern slope of the mountain, where the soil is very dry, and where it can be fully exposed to the sun. It can be readily distinguished by the fact that, unlike other pines, it bears its cones on the main trunk of the tree, giving it a singular appearance, as they are arranged around the trunk in almost a circle. Usually, five, though often seven, cones compose the circle. Sometimes two or three of these circles of cones will be closely crowded together, overlapping each other as they hang down.

A peculiar feature of these cones, and one worthy of your attention, is the manner of their attachment to the trunk. You will observe that the bases of the cones rest against bark, and that they are so firmly fixed as to bear the pressure of several hundred pounds without breaking off. These cones appear upon the trunk while yet the tree is quite young, and yet the successive layers of growth of the trunk rarely ever surround and bury them. The petiole of the cone seems to lengthen, but not quite fast enough to keep pace with the growth of the trunk, so that in many instances it would seem as if the pressure of the subjacent tissue against the base of the cone has forced it out, leaving a hole where the petiole entered the older wood. Nature has also made good provision for the preservation of the seed. The cones are very compact and coated with a resinous coating, which insures them against cracking open. The cones are never shed until the tree dies or has been fallen, and then not for a long time do they open. I have specimens now, seven to ten years old, which, though exposed, have not yet opened their cones.

In the forests where this pine abounds the trees are all of the same age. This may readily be accounted for from what I have said of its cone shedding. It has no special value as a tree of commerce, but finds, or should find, a place as an ornamental tree. It thrives though poorly in our vicinity. It rarely ever attains great height.

After the reading of the above, Mr. J. P. Moore furnished the Society with a report on his examination of the grape-vine leaves handed in at the previous meeting, and showing to what is due the disease of the vines with some suggestions as to prevention if not cure of the trouble.

GRAPE-VINE FUNGUS.

The grape leaves sent to this Society by Mr. Woods, of Mission San Jose, and put into my hands for examination at our last meeting, prove to be infested with the fungus commonly called Oidium Tuckeri, but which recent mycologists class as an Erysiphe. This is by no means a new fungus, but has been fully figured and described in European works. It is common in many parts of the old world. It does not, I think, occur on our native wines. but rather on such as have been imported. Berkeley says: "No species of Erysiphe occurs, so far as I am aware, in very warm climates." It first makes its appearance as a fine, delicate, cottony layer, upon the surface of the leaves, the branches and fruits; very soon the leaf assumes a pale color, and brown or reddish-brown spots begin to appear, and the vitality of the leaf is soon destroyed. The destruction seems to take place, not so much through an abstraction of the chlorophyll of the leaf, as by shutting down upon the cell structure, excluding light and air, and, as it were, squeezing the life out of the tissue. To what extent the ravages of this fungus may already have proceeded on our coast, I am unable to say. I have received specimens from several localities showing that it has begun to spread.

As to the best remedy for it I can only say that finely powdered sulphur is, as far as at present known, the best remedy. Persulphuret of potassium, hyposulphite of potash, and sulphuret of patassium answer, perhaps, the same purpose. I would suggest that as far as practicable the dead leaves be gathered and burned.

It would afford me much pleasure to receive specimens from any part of the State or Coast where it has made its appearance, and to ascertain the varieties of vine most affected. J. P. MOORE

A CHEAP MICROSCOPE.

Messrs. C. A. Spencer & Sons, Geneva, N. Y., have met a long felt want and done good service to microscopy by making a cheap microscope that is at the same time a useful one. Heretofore the cheaper instrumens have generally speaking been made to please the eye of the innocent purchaser with a fine show of brass work, the lenses receiving but little attention and being of very poor quality. In the new Spencer student stand the curved arm and the base are of Japanned iron, and there is positively no needless work put upon the stand,—the most pains being taken with the optical parts. The body inclines at any angle from vertical to horizontal. The coarse adjustment has compensation for wear, and works smoothly. The fine adjustment is obtained by a clamp lever to pinion and enabled us to adjust accurately a 1-50 inch objective, giving power of 4,500 diameters, showing the markings of *Pleurosigma angulatum* with central light from the concave mirror. The stand was steady with this high power. The stage is large and thin, with removable spring clips to hold the object. The clips may be changed in a moment to the lower side of the stage, and the slide containing the object be held by them under the stage, and with direct lamplight, or condenser, the utmost possible obliquity of light may be obtained. The instrument is fitted with the "society screw," so any first-class objectives may be used on it, and there is also a standard screw in the stage for attachment of tube for accessories. With one inch, and one-fourth inch objectives, better than the French object glasses usually sold, giving powers of 90 and 370 diameters, and put up in a cabinet, the instrument is sold at $40.00. The stand, at greater expense, may be fitted with a better grade of objectives.

Spencer has lately commenced making what he calls a professional series of cheap objectives. Of these, we have tried the ½ inch, 45 degrees, the ¼th, ⅙th and 1-10th, of 100 degrees. The price of the first three is $20.00 each, and of the last one $30.00. The last three are adjustable, resolve the *P angulatum* by central light, and a medium *Navicula rhomboides* by oblique. Their performance is superior to that of any glasses we have seen for a similar price, and in fact they excel those we have used from one of the three most celebtated London opticians, and cost only one-half as much. There is certainly no need for Americans to go abroad for good working lenses, for they can do much better right at home.

Last but not least of these cheap objectives, is a ⅙th of 130 degrees angle. of aperture, working well by either central or oblique light as a dry lens; —resolving *Surirella gemma*, (dry) giving the longitudinal markings distinctly. By changing the adjustment it may be used as an immersion lens when with oblique light it resolves distinctly Moller's *Frustula Saxonica*, (a very fine *Navicula rhomboides*,) when mounted dry. It does not do as well on balsam mounts, stopping on the Moller plate at *Surirella gemma*, The price of this objective is $35.00.

We hope other opticians will profit by the example of the Geneva house and put on their lists such excellent working lenses, suited to ordinary professional needs, and at prices within the reach of almost any physician or student. G. W. MOREHOUSE.

MICROSCOPES AT THE CENTENNIAL.—We recently visited the Centennial Exhibition at Philadelphia, and, while there cast our eyes about to discover what microscopes were on exhibition. We were surprised at the meagerness of the display. In a grand exposition of the advancement of the sciences and of the arts of the present advanced civilization of the world, wherein one nation vies with another to exhibit its manufactures in every department—what it has done in the production of the elegant and the useful; in education, art, and science; in cunningly devised instruments to attain that which without would otherwise be impossible, or could be done far less perfectly—we would have supposed that the makers of such instruments as the microscope would have been largely represented. But such we found, very much to our disappointment, is not the case.

In several of the educational journals of the country appears an advertisement reading as follows: "——'s microscopes and telescopes are not in the Centennial Exhibition, where it would be impossible to examine them. But all interested are invited to call at the salesroom, where every facility will be afforded for their thorough inspection." Yes, those interested in microscopy would feel much like taking the cars and visiting said salesroom in an out of the way corner of the U. S.; and keeping the instruments there, on show, would improve very much the facilities for their inspection. Some, no doubt, will be invidious enough to insinuate that they were retained in their inaccessible salesroom to keep them from being inspected; *i. e.*, along with the English display. We ourself do not allege this as the motive of the non-exhibition at the Centennial, but undoubtedly others will; and we therefore very much regret that, probably through the very bad management of friends, the aforesaid very fine instruments of the maker are not in competition.

Mr. Joseph Zentmayer and James W. Queen & Co., of Philadelphia, are the only American makers of microscopes who make an exhibit, and their display is quite creditable to them. Mr. Z. displays his Grand American Microscope stand as it has been recently improved by him, the old model of the same, the U. S. army stand, student's stand, etc. Also is exhibited the objectives of his make, and various accessory apparatus Mr. Z.'s work is of the highest standard, and will compare with that of similar rank made anywhere in the world. His new form of the Grand American stand possesses features that are entirely new, and of the utmost utility

Messrs. Queen & Co., of Philadelphia, make an exhibit of student's stands after the Jackson model, and a class stand, devised by Dr. O. W. Holmes, of their own make. These, from our knowledge of them, are excellent instruments. We can very cordially recommend to teachers the class stand, which can be passed around in a class with great ease.

The English makers who exhibit are Mr. Henry Crouch, Beck, Ross, and Dallmeyer. All of these exhibit some very fine instruments, and in great numbers, with the exception of Dallmeyer, who has but two stands. But what he lacks in numbers is made up in size. The larger of his two stands is certainly the largest microscope we ever saw. No one was in charge and therefore we could learn no particulars.

The display of Mr. Henry Crouch is quite handsome. He exhibits quite a number of stands of different sizes, monocular and binocular. Mr. Crouch was so kind as to give us a descriptive catalogue of his various instruments, but unfortunately we mislaid it, or we would make use of it in giving a detailed account of the various patterns he has on exhibition. We can say, however, that they are all of high merit, and are of remarkably low price. A half inch objective of his make, of 48° angle of aperture, having an unusual focal distance to allow of the condensing of light upon an opaque object, we were quite pleased with.

Ross & Co., of London, make quite an elegant display. This firm make the Wenham patent objectives, which are said by dispensing with the six surfaces formerly used to acquire a large increase in brilliancy and definition. The prices vie with the highest. Wilson, Hood & Co., of Philadelphia, their agents in this country, kindly supplied us with a descriptive catalogue, but it disappeared with that of Mr. Crouch's.

The well-known firm of Beck, of London, make a good diaplay of their elegant instruments. The work of this house is so familiar in this country that it would be a superfluity on our part to endeavor to describe it. James W. Queen & Co. are their agents in this country.

Nachet and Bardou, of Paris, are the only French makers of microscopes represented at the Exhibition. Natchet's display is very inferior indeed, and compares very unfavorably with that of our English cousins. He has no first class stands on exhibition, and only some six or eight of any kind. There are no lenses to be seen except those that are in the cases of each stand. No one could be found to give any information.

Bardou, among a large collection of optical goods, such as telescopes, large and small field glasses, opera glasses, etc., exhibits a few microscopes. His is the house which makes the cheap French microscopes that are to be seen in every optical instrument shop throughout the whole country, and which are mounted with objectives that are worth about twenty-five cents a hatful. We saw in his case one large instrument, having a number of objectives belonging to it of a different style of make to any we had ever seen before of his manufacture. The gentleman in charge could give us no other information about it other than that the price was $700. Whether the lenses were of any account or not we had no means o ascertaining.

Plossl & Co, of Vienna, exhibit one instrument. It is more remarkable for its insignificance than any thing else. It is covered by a glass vase, and has a few objectives placed about it. It was marked for sale, but no one could give us any information as to price.

The instruments we have mentioned are all the microscopes that are on exhibition by their makers, unless we except some small ones by Rausch & Lomb, of Rochester, New York, with Gundlach's objectives. We have understood since our return home that Gundlach is associated with this company.

A good many microscopes are to be seen in the various educational departments as a part of the paraphernalia of instruction, but not for separate display. In the Army Medical Department are to be seen a number of microscopes, the property of the government. Here also is to be seen a splendid display of micro-photographs.

TRANSLATIONS.

By W. A. Rothacker.

PERNICIOUS ANÆMIA.

Pernicious Anæmia was first described as a distinct disease by Biermer.

Biermer's cases, which were mostly women, showed, besides a high grade of anæmia, the following appearances:

In nearly all of the cases there were retinal hemorrhages; more rarely petechiæ and capillary hemorrhages were found in the brain and the meninges. The disease was, with the exception of one case, fatal. The post mortems revealed fatty degeneration of the heart and of the intima of the arteries and capillaries.

Quincke observed ten cases of this disease, *i. e.*, four men and five women between the ages of 25 and 59 years, and one girl aged 11. In all of these there was a waxy hue of the skin and mucous membranes, and puffiness of the face. In several of the cases there were marked dropsical manifestations. All of the patients were very weak and frail, so that they were obliged to remain in bed. The pulse was frequent, small, and soft, and a loud anæmic murmur could be heard at the base of the heart, particularly over the pulmonary artery. The heart was often found to be much dilated, and sometimes there was found fatty degenerations. The liver in several cases was very fatty. Some of the patients were troubled with repeated bleeding from the nose, others had petechiæ on the skin. Hemorrhages into the retina were constantly found without any existing disturbances of vision. The temperature was either normal, or it followed the line of a mild remittent fever; seldom running higher than 102 2°. The spleen, lymphatics and spinal cord presented no changes. The disease was slow in its development, but continuous in its progress. Its average duration was from one-third to one year, and death was the result of exhaustion, and seldom of any intercurrent affection. Quincke only observed two cases which recovered. In pregnant women the prognosis is absolutely unfavorable, as in all cases the patients died a few hours after a resulting abortion. In the early stages of the disease, patients very much resemble in general appearance those affected with Bright's disease in whom there is a beginning contraction of the kidneys. The albuminuria is only transient, and there is never hypertrophy of the left venticle. Sometimes the patients, from their appearance, will bring to mind cases of ulcer or cancer of the stomach, or of typhus. The ophthalmoscopic appearances, *i. e.*, retinal hemorrhages and sometimes the retinitis of Bright's disease, are pretty constant.

With regard to the etiology of the disease, it may be remarked, that a number of cases were observed in Switzerland; that many of the women were pregnant, and that the majority of the patients were in poor circumstances. The total amount of blood in these patients was always diminished. The blood was light in color, thin in consistency, and flowed with difficulty. Microscopic examination revealed marked decrease in the red corpuscles, with considerable variation in their size, which latter condition was due to imperfect development of some of the corpuscles, and partial destruction of others. Repeated examination of the blood showed great destruction of the red and white corpuscles, with a defective reproduction of the same. This form of anæmia may follow the most various forms of disease. Its treatment is like that of ordinary anæmia. Transfusion has as yet brought no benefit.—*Quincke Wiener Med. Woch.*, No. 35.

POST MORTEM APPEARANCES AFTER EXTENSIVE BURNS.

In the first case in which death occurred, eighteen hours after the burn, there was found inflammation of the stomach and intestines, with a hyperplasia of the follicular apparatus, especially Peyer's patches and the solitary glands. On the mucous membrane of the stomach and duodenum there were found small hemorrhagic erosions; and further along in the intestine the vessels were found greatly congested. The mucous membrane of the cœcum and colon was found to be red and swollen.

In the second case (death in eighteen hours) there was found, besides great congestion of the thoracic and abdominal viscera, much distension of the vessels of the kidneys. There was partial fatty degeneration of the epithelium in the convoluted tubes, and some of the tubes were found filled with hyaline casts. Hyaline casts were found in great number in the urine. The urine was acid in reaction, and of a powerful odor. In this case eighteen hours had sufficed to establish a nephritis, with acute exudation into the lumen of the uriniferous tubules. It is the opinion of Ponfick (who reports these cases) that the duodenal ulcers so often observed after burns, are hemorrhagic in character, and are only part of a condition which may exist throughout the whole digestive tract.—*Berlin Klin Woch.*, No. 17. *Centralblatt.*, No. 34.

DIGITALIS POISONING

It was found in a case of death from digitalis poisoning, that there were no post mortem appearances which could be considered as distinctive. The blood was found fluid; nowhere were clots to be found. There were ecchymoses in the stomach and intestines. The brain was anæmic; the reaction of digitalin was discovered in the stomach, œsophagus, duodenum and liver. Tests applied to the blood contained in the right ventricle gave no result. The symptoms, etc., attending the death of the patient were anxiety of countenance, epigastric pain, nausea, constipation, headache, and vertigo. There was a peculiar odor to the breath. The temperature was normal; the pulse 50-52. The patient was a man who had taken the drug for five weeks in order to escape the army service.—*Viertelyahrschr. fur gericht, Med.*, April, 1876.

ECLAMPSIA FOLLOWING MASTITIS.

The patient, æt. 25 years, was delivered without any untoward circumstances. The secretion of milk failed. After six weeks there were suddenly developed paroxysms resembling those of puerperal eclampsia, and at the same time the right breast became hard and painful. The paroxysms lasted four days, *i. e.*, until an abscess had formed in the breast. As soon as the abscess appeared the paroxysms disappeared entirely, although cold to the head, clysters, bromide of potassium and chloral had previously been used without any effect whatever.—*Deutche Med. Wochenschr.*, No. 7, 1876.

Book Notices.

A PRACTICAL TREATISE on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra. By SAMUAL D. GROSS, M. D., LL. D., D. C. L. OXON, Professor in Jefferson Medical College. Third Edition, revised and edited by SAMUAL W. GROSS, A. M., M. D., Surgeon to Philadelphia Hospital, 8vo. pp. 574.

The high position which Professor Gross holds in the profession makes it unnecessary for us to pass any enconiums upon this work to impart confidence in it among physicians. We will, therefore, only quote from the preface of the author descriptive of this edition:

"A new edition of this work having been called for, after having been out of print for several years, I have entrusted its revision to my son, Dr. S. W. Gross, who has rewritten the greater portion of it, and brought it fully up to the existing state of our knowledge. As he has delivered several courses of lectures upon the affections of the urinary organs in the Jefferson Medical College, and has devoted much study and attention to their practical details, I felt satisfied that the task would be thoroughly executed. The chapters on Tumors of the Bladder and of the Prostate Gland, which add largely to the value of the work, are entirely due to his pen."

A THEORY AND PRACTICE OF MEDICINE. By FREDERICK T. ROBERTS, M. D., B. Sc., M. R. C. P., Fellow of University College. Second American from the last London Edition, revised and enlarged. 8vo. pp. 920. Philadelphia: Lindsay & Blakiston.

It affords us pleasure to announce to our readers a new, enlarged, and improved edition of this deservedly popular work on the Practice of Medicine. On the appearance of the first edition we stated that we regarded the work as superior to any other in the English language for the use of students and young practitioners; but the present revised edition we consider to be of higher merit still.

In the present edition several subjects have been in great part rewritten, in order that they might be brought up as nearly as possible to the existing state of knowledge and observation. While the original plan of the work has been in the main adhered to, it has appeared desirable, as is stated, to make certain alterations in arrangement, and by far the greater part of what was in the former edition in small type has now been printed in the ordinary type. A separate chapter has been introduced on the "Diagnosis of Acute Specific Diseases," while some complaints, which were before but briefly touched upon, have been considered more in detail, and a few of the less common affections are treated of for the first time in this edition.

YELLOW FEVER AND MALARIAL DISEASES. Embracing a history of the Epidemics of Yellow Fever in Texas; new views on its Diagnosis, Treatment, Propagation, and Control; Descriptions of Dengue, Malarial Fevers, Jaundice, the Spleen and its Diseases, and Diarrhea Hemorrhagica; with practical remarks on their successful treatment, etc. By GREENSVILLE DOWELL, M. D., Professor of Surgery in Texas Medical College, etc. 8vo. pp. 241. Philadelphia: Medical Publication Office.

Notwithstanding the very long title, this is a thin book. We do not mean *thin* as regards matter, but as regards its ***material*** size.

This work was undertaken, as the author states, with the sole object of furnishing to the profession a rational and more definite mode of diagnosis of yellow fever, from the other diseases treated of in it, and to give, as he believes, a more successful plan of treatment.

Dr. Dowell is an eminent physician of Texas, and has had much experience in the epidemics of yellow fever. He may be regarded as an authority on those subjects of which he treats. We would be pleased to make some extracts from the work, but our space will not permit. We will only mention that the Doctor states emphatically that no one has ever had a second attack of yellow fever; and that all are liable to it who have not had the disease once—no acclimation being a preventive. It is propagated by germs, and originates in no other way. These cannot live in a temperature above 212, nor below 32° F. Isolation he regards as a certain preventive against its spreading. No drug will act as a prophylactic—*not even quinine.*

Of unassisted or non-treated cases, about seventy-five per cent. will die; of properly treated cases, five per cent. will die. The skin does not turn yellow in more than one case in six, and many die before there is the least appearance of yellowness even in the eyes. Not more than one in three turn yellow of those who die of black vomit

A map and several colored plates illustrate the work.

Editorial.

Resignation of Dr. M. B. Wright.—We regret to be compelled to announce to our readers that this venerable and distinguished gentleman has been under the necesssity, on account of physical infirmities, of resigning his position upon the staff of the Cincinnati Hospital Dr. Wright is the oldest teacher of medicine in Cincinnati. Probably his name is attached to the diplomas of more physicians than the name of any other gentleman in the West. Not only in the large cities, but in the towns, villages, and at the crossroads throughout Ohio, Indiana, Illinois, and other states do medical men abound who were taught obstetrics by him. Having been so long in the harness, and labored so faithfully and acceptably, he has earned the right to retire from active service and rest on his honors, although all will regret he could not have continued on for a long time to come, instructing not only the fathers and their sons after them, but also the grandsons, which latter he has done, no doubt, to some extent.

Dr. W. H. Taylor, a gentleman of great piety, has been appointed to succeed Dr. Wright as obstetrician on the staff of the Hospital. Dr. Taylor is a quaker gentleman, who has obtained no little position in religious circles for his zeal and religion. He is active in the Young Men's Christian Association; he reads chapters of the Bible at religious gatherings; and "leads" at the Business Men's Prayer Meetings. He is also, we believe, an esteemed member of the Bible Society. Religiously he is *au fait*, and no objection can be brought against him. He has never written, it is true, any prize essays in obstetrics, or any kind of essays, that we have ever heard; as, if he were given to write at all, he would be apt to have his compositions printed in the *Children's Home Journal*, as he is physician to the "Home," and it often speaks in praise of his medical abilities; but papers on obstetrics would not be regarded appropriate for the columns of that monthly. We have never even heard of his reporting a case in obstetrics, much less bringing before the attention of the profession any new remedy, or suggesting any means by which the dangers of parturition may be lessened, or the chances of saving the life of the child in difficult cases may be increased We know, however, that he is active in increasing the usefulness of the Home of the Friendless, where women, if not saved from physical death, are saved from a worse one—a moral death There would, of course, be a plausibility in reasoning that qualifications for a higher duty would include qualifications for a lower one. But in these days, when such good men as Moody and Sankey are going about holding revivals, and thousands and tens of thousands are flocking to hear them preach, and hear the affecting song of the "Nin ty-and-Nine," and only a few hundred of unimpassioned men and women go to hear Dr. Huxley, who is going around at the same time discussing such irreligious and disrespectable subjects as "Evolution," geology, etc., position in such a selfish profession as that of medicine, which only considers the temporal welfare of men, and nothing higher, is not to be set up against a high position in the religious community. If the thousands and ten thousands were running after Dr. Huxley and his scientific discussions, and only the hundreds were seeking the preaching of Moody and Sankey and the sweet and affecting "Ninety-and-Nine" song, it might be worth while to appoint to a purely scientific place an individnal having a reputation as a man of science, for then it would be popular. But Dr. David Judkins and Judge Hagans can be relied upon not to do an unpopular thing, except by mistake. The latter gentleman once, it is true, took one hundred dollars for making a little harangue in the police court on behalf of some lady temperance crusaders, which the ladies paid from the proceeds of a fair, but there was a self interest in that; but not so in the former case.

Professors Miles and Reamy, and one or two other gentlemen who had considerable reputation in the profession as obstetricians, were urged to the trustees for appointment to the vacancy, but as Dr. David Judkins and Judge Hagans seemed to be under the impression that the appointment of an eminently pious individual would be acceptable to the religious circles, they chose Dr. Taylor in preference. Dr. A. S. Dandridge coinciding, he was elected. Dr. Dandridge, we know, is not pious himself, but as the Cincinnati Club House is only a square distant from the building of the Young Men's Christian Association, conditions could be supposed that would cause him to lean that way sometimes; *i. e.*, to prefer a religious man for a place on the staff of the Hospital to a man of the world, who had only a scientific standing, providing that said man of the world was nothing in particular to Dr. D., and he was just then having the leaning before mentioned.

We do not wish our readers to understand that in time to come only pious men will be selected for positions upon the staff of the Hospital; for although Dr. Judkins and Judge Hagans are both holy men, as very many of our good citizens of Cincinnati will freely attest to, they will be governed in their actions by the "demands of the community." Moody and Sankey are now at Chicago singing the "Ninety-and-Nine" song, and a strong religious feeling is being awakened in Cincinnati. Under the circumstances it behooves one to exhibit his sympathy with the prevalent respectable feeling by acts of piety. How appropriate then that one of the principal leaders in all our religious movements should be selected to fill an important position that happened to be vacant. It may be that Professors Miles and Reamy might be able to show greater claims for the place in the way of scientific acquirements and professional standing. But these should not weigh under the circumstances. Piety and not knowledge is what is demanded; and the "demand," as Judge Hagans says, must be complied with. Professor Miles has attained to quite a high position in the profession as an obstetrician and gynæcologist; he has written many papers which have been published and commended; he has devised quite a number of ingenious and useful obstetrical instruments; and recently, when in Europe, he made so favorable an impression upon those high in the profession in England that he was elected a member of the Royal Obstetrical Society of London—but then, although a church member, we believe, he has not the odor of sanctity which emanates from Taylor. In fact, his amounts to nothing at all in comparison. The pious feelings of the religious community would not have been satisfied with his appointment. Professor Reamy has been more active in religious matters than Professor Miles, as he has frequently addressed sunday schools, and taught Bible classes, but the odor from him melts away into nothing compared to the refined and fragrant smell that exhales from the appointee. It is true Professor R. has been President of the State Medical Society, and has been prominently before the profession as a teacher and writer for many years, and has a reputation as an obstetrician and gynæcologist extending far beyond the limits of Cincinnati, but weighed in the scales of sanctity by Dr. Judkins and Hon. Hagans, with the tilting Dandridge standing by, he would be regarded light of weight. Besides, awhile ago he administered to Judge Hagans a severe castigation (not physically) before a large audience assembled in Trinity M. E. Church, for charging him that in his Bible instructions he did not make "experimental religion" (whatever that is) sufficiently prominent; and it is suspected that the Judge doesn't like the Doctor in consequence.

Let us all feel glad that a pious man is now on the staff of the Hospital. May be a revival of religion, which is very much needed, will occur among its members. It might even slop over into the Board of Trustees, and we have the Hon. Len. Harris, the wicked and intemperate Mayor Johnston, who ordered the lady temperance crusaders arrested, which put money in the purse of the Hon. Judge Hagans, and honest Mr. Mayer, of the County Treasurer's Office, brought under its influence and made pious men.

PERSONAL.*—The following gentlemen should be addressed as follows: Dr. W. J. Fleming, Felicity, Ohio, instead of Cincinnati; Drs. W. G. Wilson, Pulaski, Pa; A. J. Pressey, Bowne, Michigan; D. C. Mitchell, Ray, Indiana, instead of Rushsylvania, O.; J. J. Wall, Sharon Centre, O.

REFORM.—Reform is the popular cry now. It is the motto of both the great political parties. The Trustees of the Cincinnati Hospital, as we learn from this morning's papers, (October 5,) becoming imbued with the prevalent sentiment, and wishing to exhibit their disposition to economize, have driven out Dr. Underhill for prescribing sugar-coated quinine pills to the patients of his ward, about twenty-five or thirty in number, thus saving to the city on an average fifteen cents a day. Thus it will be seen, as we have intimated in another editorial, that the Trustees can be relied upon being on the popular side. 'Rah for reform, Judkins and Hagans.

NEWSPAPERS AT THE CENTENNIAL.—The Special Correspondent of the London *Times* says it would be difficult to find an apter illlustration of the big way in which the Americans do things than that furnished by the "Centennial Newspaper Building," in the Exhibition grounds. Here you may see any one, or, if you like, all of the 8,129 newspapers published regularly in the United States, and see them, one and all, for nothing. He may at first wonder how, among 8000 papers, among them such mighty sheets as the New York *Herald*, he is to get at the small, loved print of his home, thousands of miles away, it may be over the Rocky Mountains. But the management is so simple that, by consulting the catalogue, or even without the aid of the catalogue, anyone can at once find whatever paper he wants. They are pigeon-holed on shelves in the alphabetical order of their States or Territories and their towns, the names of which are clearly labelled on the shelves. The proprietors of the Centennial Newspaper Building are advertising agents, the largest in all America—Messrs. G. P. Rowell & Co., of New York. Their enterprise will cost altogether about

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* Those who have informed us of a change of address, and do not find it noted in our next issue, will please notify us.

$20,000, or £4,000, including the building and the expenses of "running" it for six months. The 8000 and odd American newspapers are declared, by the same authority, to exceed "the combined issues of all the other nations of the earth."

LIFE INSURANEC SYSTEMS.—The system of Life Insurance is one which in theory is admirable, and in practice is detestable. That a man can provide for his family or his own old age, by handing his savings, as they accrue, to an institution which will guarantee a much larger amount than their sum if he meets a death earlier than the average, is a benevolent design, and none the less so that it is a profitable one to the institution itself.

But there are most serious objections to it, some easily remedied, some difficult to reach. The system of "forfeitures" is one most unfair and iniquitous. That any man or any company should be authorized to take advantage of poverty because it is utterly destitute, and of need because it is at the sorest, is bad and demoralizing. Personally, we can have no confidence in, and can entertain no respect for, the boards and companies who foster and defend this system. Yet companies boast that all their expenses are paid by forfeited policies!

Of course, this is a stimulus to the organizing of dishonest and fraudulent companies. So long as men claiming integrity defend the robbery of their customers whenever these are most in want, one may be certain their moral sense is so obtuse that they will rob them at any other time, opportunity given.

This is especially the case when the insured dies. Then the medical certificate is searched, and a series of questions sent to the family and friends of the deceased, to see if some pretext cannot be found to refuse or at least to litigate the policy. Having been the recipient of such a string of inquiries, we speak knowingly when we say they are deliberate snares to catch the confiding and innocent.—*Reporter.*

WALNUT STREET HOUSE.—We would recommend our many subscribers who visit Cincinnati, and who desire to stop at a first class house, where they can have every comfort possible, to patronize the Walnut St. House. Terms very low, but none of the accommodations inferior in consequence. See advertisement.

The well-known London house of Macmillan & Co., publishers of the *Practitioner*, have undertaken the publication in England of "Micro-photographs in Histology" the monthly work conducted by Drs. Seiler, Hunt, and Richardson. A large edition is required by the English profession.

A good story is told and vouched for by a well-known auctioneer in an eastern city. Some year or more ago the auctioneer had for sale a large lot of homœopathic medicines, the little white pellets of which the patients dissolves six in a pailful of water to a dose. When the sale occurred all these medicines were dumped into one pile, and disposed of in one lot, there being various kinds of medicine in the mass. A boarding-house keeper bought the lot, and some days after the purchase the auctioneer asked her, "what did you want with that homœopathic medicine, Mrs. ——?" She replied, "I thought I could use it and it was cheap, so I crushed it under the roller and then filled my sugar-bowls with it. The boarders seemed to like it, and especially when powdered over pies."

THE

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Original Contributions.

PUERPERAL SEPTICÆMIA, INCLUDING A REPORT OF TWO CASES.

By J. W. UNDERHILL, M. D., Lecturer on Medical Jurisprudence Cincinnati College of Medicine and Surgery.

Read before the Academy of Medicine, Cincinnati, Ohio.

GENTLEMEN OF THE ACADEMY:—I desire to ask your attention at this meeting to some remarks I have prepared upon Puerperal Septicæmia, based principally upon a report of two cases of that affection which have come under my observation during the present year. The first of these occurred in hospital, the other in private practice. For the following record of the former I am indebted to Wm. E. Kiely, a resident physician of the Cincinnati Hospital, whose intelligent observation was given almost hourly to the case.

"Jennie Foe, aged 24, born in Ohio, unmarried and a domestic. Admitted into the medical from the obstetrical ward, where she was delivered at 11.30 A. M. to day (March 19, 1876) of a babe at 7½ month's utero-gestation. The resident physician on duty in the obstetrical ward, Mr. Rothacker, suspecting erysipelas, had her transferred therefrom for the greater safety of the inmates of that ward.

"*Present condition:* Tall, muscular; body well nourished; eyes and hair dark; face flushed and red; eyes staring; pupils dilated, but not unequally; tongue coated; complains of headache, and has slight cough. Pulse 140; respiration 24; temperature 105°. Ten grains of quinine ordered, and cold water applications to the head and face.

"At 6 P. M., slightly delirious. Pulse 136; temperature 104.5°. Milk suppressed.

"At 10 P. M., pulse 120; temperature 103°. The lochia, which have before been scanty, it is now noticed are entirely arrested. Ten grains of quinine are again given, and this time in combination with thirty drops of tinct. opium.

"March 20, this morning the delirium is much more marked. Attention of the patient cannot be fixed. Pulse 128; respiration 32; temperature 104°; ordered:

℞	Potassii Bromidi	ʒ iiss.
	Quin. Sulph	grs. lxx.
	Ext. Aconit Alc	grs. iss.
	Morph. Sulph	grs. i½.

Ft. pulv. in chartulas quinque dividendus.

Sig. one every five hours. Also order sherry wine to be taken freely.

"At 2 P. M., patient is more delirious, requiring at times force to keep her in bed. Drew 48 oz. high colored urine, upon the examination of which nothing abnormal is found; pulse 120; temperature 103°. At 4 P. M., patient cannot be roused. At 10 P. M, pulse 140; temperature 104.5°; respiration 32, and catching. Urine again drawn.

"March 21, this morning pulse 140; very feeble, respiration 24; temperature 106°; sinking rapidly. Died at 9 A. M.

"The babe, a male, which had appeared strong for its intra-uterine age, was taken in charge by a convalescent patient, but died suddenly in a spasm at 4 P. M. of the day following its birth.

"*Autopsy* 5½ *hours after death:* Rigor slight. Lungs, slight hypostatic congestion prosteriorly, but readily inflated. Abdomen: the peritoneum covering the small intestines considerably congested, has lost its bright, shining aspect. The rest of the peritoneum perfectly healthy. Liver: slightly enlarged, paler than natural, and its substance readily broken down. Spleen: very considerably enlarged, weighing 2 3-16 lbs., darker than natural and quite pulpy. Kidneys: very much congested, the congestion being especially marked in the pyramidal portions. In one is found a cyst the size of a marrow-fat pea. Uterus presents the appearance natural to that organ after recent delivery. The placental mark is very readily detected."

In addition to the rather full notes just given of this case I may add, that at 10 o'clock A. M. of the day she was confined my attention was first called to her by the report given to me at my usual morning visit to the hospital, that she was threatened with miscarriage. I found her sitting up, and in answer to all my queries she complained only of pains in the region of the uterus. Nothing abnormal could be detected in her appearance. There was no quickening of the pulse nor unnatural heat of the body, so far as could be noticed by the sense of touch.

I may here state that it was not usual to admit patients of this class till the eighth month of pregnancy, but an cxception had been made in this instance, and she was employed about the hospital, and had that morning attended to her usual duties as an employe of the institution.

At my request she walked the length of the ward, and, apparently without difficulty, to an adjoining room, where, upon examination, I found labor had already progressed to the second stage. The resident physician, who then took charge of the accouchement, informs me that labor was normal, though rather rapid, and nothing unusual was observed in the condition of the patient. But within a little more than two hours from her delivery she began to complain of headache, and a suspicious scarlet hue made its appearance, overspreading the greater part of the face and one ear. Thereupon she was immediately transferred to the medical ward. At the time of the transfer she complained of nothing save a slight headache, nor would she admit that she was ill. There was no chill, and yet at that time she was suffering from a fever which in about two hours thereafter showed a temperature of 105°. A remarkable rise in temperature seems therefore to have been attained within 4½ hours from her delivery, and death took place 45½ hours subsequent to her accouchement.

It is not claimed that this case of puerperal septicæmia was pure and uncomplicated; the septicæmia, however, was predominant and associated with only a slight peritonitis. The congestion of the visceral organs, and certain other autopsical lesions, were such as we will farther on see are usually found after death from this disease.

Upon a careful review of this case, queries most difficult of satisfactory solution present themselves. Whence came this poison which with such celerity overwhelmed life? And what is the essential nature of this septic material? These, and kindred questions, are well worthy our most careful consideration; and though I cannot hope to solve safactorily these and allied problems which some of our most profound medical minds have in vain essayed, yet I will endeavor to separate the disease as well as possible from others with which it has been almost inextricably confounded, and present at least a summary of our present knowledge of the affection. But prior to going farther I beg to read the subjoined report of the second case to which reference has already been made. To me it seems a case of pure septicæmia. The observations were carefully recorded, and my notes written in the sick-room at each visit.

"Mrs. Mary H., married, æt. 32, a native of Germany, was confined with her third child by a midwife June 25, 1876. Having been the family attendant for several years, I am satisfied that Mrs. H. had not suffered from uterine disease, and was healthy up to the date of her accouchement. The midwife reported that the patient had had an easy labor, and that she had done well till June 27, 48 hours subsequent to her delivery. I, however, was not summoned till the afternoon of the 28th, full 24 hours from the inception of her illness. I then learned that upon the afternoon of the day before my visit she had experienced a long, but not very severe, chill, and that she had slept but little during the night preceding the day upon which I visited her. Just before my visit she had slept one hour, and from that sleep she awoke in such delirious condition as to alarm her family. I found her sitting upon the side of the bed in which she would not lie without compulsion. When kept in bed she continually tossed from side to side, but if allowed her will she would busily occupy herself getting out of and into bed. Her delirium was not maniacal, nor was it so marked but that her attention could be fixed by short sharp questions. She answered intelligently, and in her replies stated that she had no pain, no headache, that nothing hurt her, and that she was, in fact, not sick at all, except that at times she felt very hot and could not see well. But her anxiety as to whether she would die was very great, and with special earnestness she repeatedly asked if she would recover. There was no tympanites, and firm pressure over the abdomen elicited no complaint. Neither did nausea exist. She informed me that the only medicine she had taken was a dose of oil that morning, which had produced free evacuations, and that large clots—apparently from the womb—had escaped while she was on the vessel. These clots I was led to believe were fragments of the placenta, though possibly they may have been only coagulated blood. Upon introducing the catheter for a specimen of the urine, I was surprised to find the bladder empty—a condition which of course was explained by her statement—that she had voided urine without difficulty. The mouth of the uterus I found pretty well closed, so much contracted, indeed, that I did not venture to persist in a further exploration for clots or fragments of placenta. There were no particular reasons, however, for suspecting their presence. The lochia were apparently normal, except that they had no perceptible odor; there were no clots in the vaginal canal. The lacteal secretion was suppressed. Thirst urgent, lips and mucous membranes very red, and the face of a dusky scarlet hue. Pulse 112, temperature 106°. To quiet her condition and procure sleep, of which she is sadly in need, I order grs. xxv of chloral hydrate.

"At 10.30 P. M., I find that under the influence of the chloral she has slept an hour and is much quieter. Pulse 130, temperature 106.3°. Order:

Quiniæ sulph ....ʒ ss.
Morph sulph....................................gr. ss.

Ft. pulv. in chartulas duo dividendus. S.—To be taken six hours apart.

"Obtain specimen of urine, and leave orders to be called at three o'clock to-morrow morning.

"June 29, 3 A. M., was summoned at this hour in accordance with my request. Patient worse; pulse 144, and feeble; temperature 104°. With difficulty protrudes the tongue, which is now thickly furred. Having examined the urine for casts and albumen I find neither. Order, in connection with last prescription, two tablespoonfulls of brandy in iced milk every half hour.

"At 7½ A. M., pulse 130, and of better character than at 3 o'clock, showing, as I believe, the good effects of the stimulant. But the temperature has again crept up to 106°. Continue the brandy, and order a dose of ten grains of quinine in combination with one-third grain of morphine to be taken at nine o'clock. Direct that the whole body be frequently and freely sponged with cold water, and that the vaginal canal be washed out with a weak solution of carbolic acid every five hours.

"At 2 P. M., pulse 128; temperature 106; respiration 36. Is semi-comatose. Since last visit has vomited for the first time, and now the stomach rejects most of the stimulant swallowed. Give twelve grains quinine at one dose.

"At 8 P. M., is not so comatose, though she cannot be made to speak, nor even protrude the tongue completely. Drew two pints of urine. Pulse 126; temperature 104.5°; respiration, 32.

℞ Quiniæ sulph..................................grs. xxv.
Morphiæ sulph...... .... gr. ss.
Ft. pulv. in chart. duo dividendus.

S.—Take six hours apart.

"At midnight condition unchanged. In addition to the quinia and stimulants give ten grains salicylic acid every one and a half hours, hoping that its well-known anti-septic and anti-fermentative properties may prove beneficial. As the alcoholic stimulant has been so persistently rejected by the stomach, I now order it mixed with a cupful of milk, and to be given per rectum every hour.

"June 30, 8.30 A. M., pulse 124; temperature 105°; respiration 34. There is now slight tympanites, but apparently not the slightest tenderness over the abdomen. Drew a pint of urine, which for the first time contains albumen, one-fourth coagulating.

"At 3.30 P. M., is much worse. Pulse 135; temperature 105.5°; respiration 40. Quite restless.

"At 7 P. M., moribund. Pulse 140; temperature not taken; respiration 42. Tympanites greatly increased.

"At 9.30 P. M., died."

Unfortunately a post-mortem examination was not permitted in this case. It will be noticed, from the report I have presented, that the patient lived five days from the date of her delivery, three from the time she had her first and only chill, and forty-eight hours from the time she came under my care. Her temperature never fell below 104°, and had reached its maximum of 106.3° before she took quinia. Quinine in large doses, given at considerable intervals, seemed to control the temperature to a limited extent. There was no diarrhea in either of these cases, a symptom upon which I think too much stress is laid by a very few prominent writers, among whom may be included Fordyce Barker. Neither was there albumen in the urine of the typical case taken by the author just named, as the text for his lecture upon septicæmia contained in his "Puerperal Diseases," nor does albumen seem to have existed in any of the cases which he quotes or to which he makes reference. In my second case repeated tests of the secretion of the kidney revealed no trace of albumen until thirteen hours before death; in the first case I am not aware that more than one examination of the urine was made. Although, it is true, that albumen is likely to exist in puerperal septicæmia, yet it is not true that it necessarily accompanies that disease. Reports of cases have been so silent upon this point, that it is impossible to determine in what proportion of examples it is found. It may be doubted whether albumen more frequently exists in puerperal than in other forms of septicæmia, it being well-known that it *does* exist not infrequently in bloood-poisoning, totally unconnected with the puerperal state. Among reports of such examples are two cases reported by Dr. Duffin, in the *London Lancet*, as long ago as 1869, in both of which the women were non-puerperal, and the blood-poisoning was complicated by albuminuria.

In regard to the fluctuations of temperature, it is stated upon leading authority that there are slight remissions in the morning. This I believe to be generally true, at least of the milder forms, but in the case of Jennie Foe, the morning temperature averaged the highest, and in the other example the difference was hardly perceptible, the evening observations averaging but a degree above the average of those recorded in the mornings. I believe, however, that a high morning temperature in this, as in typhoid and most other affections, is a very unfavorable indication, and hence that the morning remission alluded to by writers is found to exist mostly, if not exclusively, in the milder varieties. I may here add that the sweats in both these patients were in the earlier stages very profuse, a feature of this disease to which reference is made by a minority of observers.

The tympanitis which existed to so considerable a degree in the second case, but only during the last few hours of life, was certainly not due to peritonitis, but was caused probably by paralysis of the peristaltic action of the intestine, allowing enormous distension from the contained gases.

I must here state that these are not the only cases of puerperal septicæmia which have come under my notice, though unfortunately they are the only ones of which I have made notes. I had in my previous practice seen and treated five, all of which recoverd, though but one of the number was severe. In four of these the temperature, if I remember correctly, was not at any time more than 103°; but in the fifth I well recollect that upon my first visit I found a body-heat of 106°, which rapidly diminished under a few very full doses of quinia. In two of the four milder cases I prescribed liquor ammonia acetatis in combination with tinct. aconit rad, and in none of these was it necessary to resort to heroic measures.

It is now a full half century since a physician of France, Gaspard by name, through his experiments with the injection of putrescent animal matter into the circulation of animals, laid the foundation for the study of septicæmia. Indeed his discoveries have proven of more importance than those made by any one of his successors in this field, although they were only sufficient to afford a conception of the great ignorance in which the whole subject was at that time enshrouded. He but laid the ground work of the super-structure which, from present indications, will yet require a long period for completion.

Piorry first proposed the term septicæmia to designate the disease resulting from the absorption of septic animal fluids; and a quarter of a century subsequent to the researches of Gaspard, we find Virchow repeating his experiments. But we are not indebted to one or two investigators alone for our present knowledge upon the subject of blood-poisoning induced by animal fluids. The study of septicæmia and pyæmia is not now beset by so many difficulties as formerly attended their investigation. We are now guided to a more intelligent consideration of these maladies by the experiments in this direction of such eminent physiologists as Magendie, Gavarret, Rodier, Andral, Becquerel and Robin. We may study them, too, more intelligently in the light of the pathological researches of Bouillaud, Berard, Sedillot, Piorry, Cohnheim and Virchow. But not less important and interesting is the knowledge we derive concerning the chemical properties of the putrid poisons from the studies of Bergmann, Stich, Blum, Panum and others. We have additional light shed upon these affections by the microscope, the aid of which has been invoked in their elucidation by Burdon-Sanderson, Feltz, Coze, Davaine and many others. Still farther has the literature of the subject been enriched by the study of their clinical phenomena, and especially by Weber, Billroth, Stromeyer, Roser, Griesenger, Hecker, and Olshausen among the Germans. Nor must we omit to name in this connection Pirigoff, Hervieux, D'Espine and Hugh Miller; and among our own countrymen Fordyce Barker, Mary Putnam Jacobi and T. Gaillard Thomas. Others equally eminent we have failed to to mention, but enough have been named to indicate the zeal with which septicæmia and its allied affections have been studied. Yet notwithstanding all that has been discovered and written in relation to these disorders, we have not learned a moiety concerning them. A field more inviting for their study is now presented, since it has lost some of its asperities in the partial cultivation it has already under gone.

It is indeed but at a comparatively recent period that an attempt has been made to separate certain of the puerperal diseases, notably septicæmia, pyæmia and phlebitis, from each other. Nor am I sure that the distinction between the former two is even yet admitted by all who have given particular attention to the subject. It is not long since Mr. Savory, of St. Bartholomew Hospital, claimed that this distinction could not be made out, and we accordingly find him defending that proposition in an article in the 55th vol. of *Braithwaite's Retrospect.* Verneuil has also supported the theory, that pyæmia is only a high grade of septicæmia, with complications. But the great majority, if indeed not all who have very recently given especial attention to these diseases, admit that there is a difference between septicæmia and pyæmia. They are not, however, so well agreed as to what constitutes this distinction. Certain cases which some observers class as septicæmia others diagnosticate pyæmia, and vice versa. Formerly many cases were designated under the general term "puerperal fever," which were either pyæmic or septicæmic, and occasionally even at the present day this error is made. But amid all this apparent confusion, the majority of clinicians are united in the view that a certain set of symptoms belong prominently to septicæmia; another to pyæmia; a third to phlebitis, and so on through the puerperal diseases.

Although in a systematic consideration of a disease, it is hardly appropriate to treat of its symptomatology prior to considering its ætiology, yet, as the present paper is scarcely designed to be a complete resume of all that is known upon this subject, but rather as an informal summary and contribution, we will therefore be pardoned for presenting at this point an abstract of the elements of difference between puerperal septicæmia and pyæmia, relating more particularly to the *symptoms* of the respective disorders. For convenience we may place them in juxta-position:

IN SEPTICÆMIA.	IN PYÆMIA.
Attack comes on at an early	Attack developed at a later period,

period after the production of the lesion in which the disease may have its origin, often within a few hours.	usually not within the first week subsequent to parturition.
Runs a rapid course, sometimes terminating fatally during first twenty-four hours, and usually not continuing more than two or three days, though rarely it may be prolonged a week or even more.	Runs a slower course, rarely ending in less than ten days, generally prolonged two or three weeks, and protracted often for months.
About fifty per cent of the cases are ushered in with a chill, and when so announced the chill is *not* repeated.	Chills are never absent, but occur at intervals—somtimes regular, but mostly irregular.
Cerebral disturbance as shown by wandering delirium, mania, or dull lethargic, and often nearly comatose condition. Intelligence much more impaired than in pyæmia.	No wild delirium, the mental disturbances consisting principally in an incapacity for thought and an incoherency of expression. Intelligence clearer than in septicæmia.
Fever violent and persistent; temperature often 104° to 107°. Remissions in a large proportion of cases do not occur, and when they do happen are usually but very slight.	Fever, although often violent, is not so persistent, and more marked remissions occur.
Patient never complains of weakness.	Great muscular debility is always complained of.
No abscesses nor purulent effusions.	Abscesses generally form, and purulent deposits may be effused into serous cavities or joints.
Dyspnœa occurs late, and has its remote cause in the poisoning of the blood.	Dyspnœa when it occurs takes place usually early in the course of the disease, and is caused by the presence of metastatic visceral abscesses.
In severe cases respirations are not so frequent as in equally dangerous cases of pyæmia.	Respirations more frequent in severe cases than in those of septicæmia equally grave.
Skin red or of a dark scarlet. Conjunctiva injected.	Cutaneous surface, and conjunctiva yellow or jaundiced in appearance—caused by destruction of red corpuscles in the blood.
Pain seldom complained of.	Pain frequently a prominent symptom.
The disease, in typical cases, is developed before pus is formed.	Developed only after the formation of pus.

If now we turn our attention to the post-mortem appearances to which incidental allusion has already been made, we find here differences more palpable than could have been discovered from the symptoms which existed during life.

IN SEPTICÆMIA.	IN PYÆMIA.
Blood dark and fluid. No thrombi nor consequent phlebitis.	Venous thrombi, and often phlebitis.
No abscesses nor effusions, nor trace of inflammation anywhere.	Abscesses, effusions, and inflammations—either one or all—exist in every case.
Mucous membrane of the intestine generally swollen, congested, and softened.	No such appearances found.
Autopsical appearances, chiefly of a negative character more like those of typhus; frequently nothing whatever is found to account for death.	Anatomical lesions always exist.

It may also be noted that in septicæmia the visceral organs are usually found to be congested and softened, and frequently they are enlarged. The spleen oftener, and to a greater degree than any other organ, undergoes enlargement. At the autopsy of my first case this organ, it will be remembered, was quintupled in weight. The spleen, liver, and kidneys are, in pyæmia, also often found similarly affected, but not so frequently, nor to so great a degree, as in septicæmia. The lungs, in the vast majority of pyæmic cases, are found to contain numerous small abscesses; but in septicæmia no such formations exist. Congestions of the pulmonary organs, often quite limited, are observed in the latter affection; and sometimes we have the ordinary evidences of bronchitis, a complaint with which it is not infrequently complicated.

And in reference to the etiology of these allied affections, I will here state that I will farther on consider it, and especially with relation to the causes of septicæmia; but at present only the concise statement is made that septicæmia includes solely that class of disorders resulting from absorption from the primary lesion *before* pus is formed, that which supervenes *subsequently* to the formation of pus constitutes pyæmia.

Surgical septicæmia does not of course fall within the purview of this paper, and yet a large proportion of the statements herein made naturally apply also to the surgical aspect of the subject. The questions relating to *the essential nature* of the disease are the same, whether we study the puerperal or any other form of the affection, and the pathology is the same whether it be surgical or puerperal.

What then we may ask, in general terms, is septicæmia? It has been defined by Dunglison, to be "a morbid condition of the blood produced by septic or putrid matters, and also by the inhalation of foul air or septic gases." But in what does this morbid condition of the blood consist? In what respects does the circulating fluid here differ from that which is normal? From these queries, none of which can, in the present state of our knowledge, be fully and completely answered, it will be seen how very unsatisfactory is the definition above given. Holmes says, that "septicæmia is a septic poisoning of the blood by putrid fluid from the locality of the injury;" and T. Gaillard Thomas, tells us that, "it is the condition produced by the admission of septic poison into the blood, to be distinguished from pyæmia and metastatic abcesses produced by emboli." Nor is either of these explanations more satisfactory, inasmuch as they fail to inform us definitely of the nature and characters of this septic poison or poisons; or of the precise manner in which the toxæmia operates to produce its results.

The introduction into the blood of the organic elements of animal tissue, in the form of putrefied fluids, is held sufficient to account for septicæmia, pyæmia and phlebitis. This trinity of affections, it is assumed, have a unity of etiology. True, they differ widely in their manifestations, and in their pathology, yet they each have a common origin in the absorption into the blood of the organic elements of decomposed animal tissue. Entirely distinct, as is each of these diseases, so far as relates to their clinical phenomena and morbid anatomy, yet either one may be complicated by the existence of one or both the others in the same patient. Especially is this true of septicæmia, which, indeed, is not very often found alone, but generally associated with pyæmia, erysipelas, phlebitis or peritonitis.

I have already asserted that the blood-poisoning in septicæmia occurs before the growth of granulations, and hence, as has been stated by a careful writer upon the topic, "at a time when absorption from the lesion is the slowest." Therefore, whatever may tend to postpone the genesis of pus tends also to render the patient more liable to septicæmia.

D'Espine states in reference to this point, that the lympathics are the habitual road for the absorption of the poison into the general circulation, and that lymphangitis is usual, though not necessary, to its passage. The lymphatics, lacerated in the production of the injury, remain open into the wound until closed by the granulating process, and of course are, until that event takes place, liable to absorb the fluids in contact with them. Chiefly does this absorption occur through the openings left in them by the traumatism, but it goes on also to a limited extent, through their walls at points uninjured. Nor are the open mouths of such lacerated lymphatics closed usually until about the third day, and if septicæmia be developed, prior to their closure the granulating process, will be still further delayed. Ordinarily, when the lymphatic system becomes involved to such an extent as to cause adenitis, then septicæmia is entirely averted, or, if it occur at all, it proves to be of a much milder type than if no such tumefaction of the glands had existed.

The preceding explanation of the manner in which septic matter gets into the blood accounts for a large majority of cases of putrid infection. But there are instances in which, when putrefied fluids are brought into contact with living membranes, septic absorption may take place independently of the condition of the veins or lymphatics. And there is further a strong presumption that *a* poison may even be, in a small proportion of cases, admitted through the respiratory mucous membrane. Yet it must be doubted whether a very considerable amount of any toxic element can be admitted through this avenue, when we reflect that medical students and others who breath for hours continuously the atmosphere of the dissecting room, are seldom affected to an appreciable degree by the foul air or septic gases which they are compelled to inhale. The same is true of trades or avocations, which require those who pursue them to be exposed to animal afflavia; and though *a kind of* septic poisoning does in all probability take place by the medium of the respired air, in the cases of some of these persons so exposed, yet such occurrence must be exceedingly rare and far less liable to happen, than absorption of poison from a traumatic injury.

But because it is known that a species of blood-poisoning may take place in consequence of toxic elements being mixed with the respired air, it must not therefore be assumed that the septicæmic poison absorbed from a wound is identical in its nature and composition with that contained in the air of the dissecting room for example, or with that emitted upon breaking open the coffin containing a decomposing human body. If they are identical, their identity has not yet been established. Their effects, however, are similar in many respects.

It may not be out of place to mention one or two examples from history of the injurious effects produced upon the living by poisonous emanations from the decaying human body. It is related that upon removing the remains of the dead from the church yard connected with the Saint Innocens in Paris about a century ago, the grave diggers suffered severely from nausea and prostration, and in consequence of their illness were in many instances unable to continue their work. In some cases when breaking open the coffins with their spades such foul emanations were liberated as would cause them to suddenly fall, and for a time be deprived almost of life.

The bodies buried in this cemetery had lain a much longer period than those of the Bourbons, whose tombs in St. Denis were broken open during the historical "Region of Terror." In the latter instance the remains of the more recently dead were found in such a state of decomposition, that the wretches who performed the loathsome work were affected by tne poisonous exhalations, and many of them were attacked with malignant typhus, severe diarrhea, and other diseases indicative of blood-poisoning.

The gases generated by the putrefaction of the body, which are mostly the carbonic acid, sulphuretted, phosphuretted, and carburetted hydrogen, are certainly not the cause of the maladies which we have shown to be sometimes produced by animal effluvia. And this brings us back to the problem as to whether it is identical with the poison or poisons of septicæmia.

In addition to the channels named through which the blood receives the toxic elements, there is yet another mode in which it may become poisoned, the possibility of which, however, is denied in certain quarters. I refer to those cases in which the septicæmia does not arise from the absorption of septic material from without, but are auto-infectious, the immediate source of infection existing within the system. All diseases which are liable to terminate in devitalization of tissue, such as scarlatina, typhus, and erysipelas, may develop this morbid condition of the blood in consequence of the necrobiosis to which they give rise. Lest it be thought that too much prominence is given to this source of infection, the statement is here repeated that "septicæmia originates in by far the greater number of cases in a traumatic injury."

[To be continued.]

FOREIGN BODY IN THE EAR.

By W. R. Amick, M. D., Cincinnati, Ohio.

Some time since we were called in consultation with Dr. G , of this city, to see a little boy who had a foreign body in his ear. From the history we learned that while W. was at school, another little boy put a bean in his right ear. W. made an effort to remove it, but only pushed it farther in toward the drum. His parents tried to remove it, but did not succeed. After the bean had been in the canal for five days it began to swell, causing considerable pain. At this time Dr. G. was called in, but was unsuccessful in his endeavors to extract the foreign particle. The same evening I saw the case, and, following the advice of Roosa, the first thing was to examine the canal with mirror and speculum to see if there was a foreign body in the ear. At the bottom of the external auditory canal, and lying upon the membrana tympani, the bean could be seen very plainly. From the length of time since its introduction it had absorbed moisture, and swelled so that it was wedged tightly in the canal. On account of the inflamed condition of the parts, the patient resisted all of our efforts, even to examine the ear. The first attempt at removal was made with the aural syringe, but a subsequent examination showed that the bean was unchanged in position. The syringing was repeated a half dozen times with no better results. The patient was then placed with the ear downward, and the syringe again resorted to, but a negative result ensued. Thus far we had failed, and the little fellow becoming very irritable, ether was administered and instruments used. The first effort was with a pair of notched forceps, but the notches simply pulled out little pieces from the side of the bean, without even moving it. Several fruitless efforts were made in this manner. Again the syringe was used, but we were disappointed. Then we tried to dislodge it by means of a probe, but the enlargement was so great that it was impossible to get the instrument between the bean and the walls of the canal without using considerable force, and the force necessary to accomplish this might cause a rupture of the membrana tympani, and push the foreign particle into the cavity of the tympanum, and the difficulty of removing it then would be enhanced threefold. An effort was then made with the probe and the forceps, but, like the rest, it was a failure. As every effort thus far had failed, we were contemplating the detachment of the auricle from the ear, when it occurred that we might accomplish the same result by the use of a tenaculum. The first few attempts were not very successful, the traction being made directly outward, but by giving it a downward and forward motion the bean was dislodged and made to rotate slightly. This dislodging produced a sound similar to that caused by pulling a piece of adhesive plaster from the back of the hand, which I think was caused by the cerumen that surrounded the bean acting the same as the adhesive material on the plaster. This cerumen on the surface together with the enlargement prevented the water from getting in next to the drum. The canal is larger at this point than it is in the central portion, and hence another reason for the trouble.

The bean was enlarged to twice its normal size. The internal half of the canal and the membrana tympani were congested. Nearly a drachm of blood escaped immediately after the foreign particle had been removed. All around the cavity or bed formed by the bean minute granulations were to be seen.

The after treatment consisted in the use of the syringe and astringents. He did not suffer any impairment of hearing, and in the course of eight days was well.

Many attempts have been made to remove foreign bodies from the ear without an examination, the physician acting upon the statement of the patient or his friends, and many a time the physician has failed to find the "object of his search," but not until after considerable damage had been done to the hearing power.

"First catch your hare," is a quaint beginning of a receipt for cooking this animal; and, in imitation of this sound advice, it is not a good plan to admit the diagnosis of the patient, and make an effort to remove a foreign particle that can not and has not been seen. Many a person has had his hearing irreparable destroyed by the physician trying to remove something which he had not seen. The tactile method of examining is deceptive, and cannot always be trusted. The probe may click on the malleus, and, without any farther examination, the physician would pronounce some hard foreign body in the canal, and proceed to remove it. The only correct way, and the only one on which a positive diagnosis can be based, is to see the object. This is best done by the use of the mirror and speculum.

The following case, given by Mr. Pilcher, is illustrative of an attempt to remove a (supposed) foreign body from the ear.

The surgeons of a London hospital attempted to remove from the ear of a child of seven years of age the head of a nail, which they never saw, but which they felt with a probe. The first surgeon to whom the child was brought said he saw the head of the nail, but he did not attempt to remove it because four men could not hold the boy's head still. A director dressing forceps, which were both bent in the forcible efforts; forceps with hooks were used, and they were also bent straight, but the nail could not be removed. An incision was then made behind the auricle, and the meatus was exposed. A search was then made for the nail, with forceps and an elevator. Tooth forceps were then used; three pieces of metal, which appeared to be pieces of the nail, were removed by these delicate instruments. The malleus bone was then removed by the forceps. The patient was now so exhausted that his pulse could scarcely be felt, and his skin was bedewed with cold perspiration. The operator then stated that he had used more force than was warrantable. He thought, however, there was now a large opening (sic) through which pus might escape, and yet he feared that a portion of the petrous bone might exfoliate, and that meningitis and abscess of the brain might occur. He stated that he had seen three or four cases which had terminated in this manner.

Of course the little victim died, and that too on the third day after these operative attempts.

The post mortem examination revealed softening of the base of the brain, and of the anterior part of the hemisphere. Not a vestige of the bony part of the external auditory canal remained, it having been removed during the operation, and the floor of the tympanum was also wanting. There was considerable pus in the tympanic cavity.

The nail not being in the tympanum, sections were made through the cochlea, vestibule and semicercular canals and mastoid cells; but there was no nail to be found.

URETHRORHAGIA—ERGOTA AS A STYPTIC.

By J. Norman Dixon, M. D., Springfield, Ills.

I was called, September 29th inst., to see Mr. W. S., aged. 28; single. On my arrival I found him very pale and weak. Respirations hurried. Pulse hardly perceptible. Upon inquiry, he said that he was bleeding at the penis. On examination I found that he was bleeding quite profusely. It was arterial blood, and was running in a stream from the urethra. He stated that the evening before he had had connection with a woman, and, to use his own words, had stayed with her rather strong. Soon after, a few moments, he noticed that he was bleeding at the penis, and as it did not give him any pain, he concluded that it was nothing serious and would soon stop of its own accord. This was about 9 P. M. Soon after he went home, and after putting some cotton and rags on the glans penis, went to bed. He said that it continued bleeding all night, and by morning he was feeling faint from the loss of blood. He sent for a physician, "homeopath" who, poor fellow, after doing everything he could think of, was discharged; and I was called about 4 P. M., nineteen hours after the hemorrhage was first noticed, and found him in the condition I have stated. I endeavored to ascertain where the bleeding vessel was by taking the penis between thumb and forefinger, and pressing upon the urethra, commencing at the glands, until I arrived at the bulbous portion of the penis. I discovered that the vessel was further up, for, pressing upon the urethra at the bulbous portion of the penis, the bleeding ceased. As he was becoming exhausted from the excessive loss of blood, I turned my attention to the arrest of the hemorrhage. I thought first of using the liq. ferri subsulphatis as an injection, but upon second thought I concluded that it was not advisable for this reason: It would form coagula in the urethra preventing the flow of the urine, and would not every other styptic produce the same result? Yes, all except one, ergota. I ordered fl. ex. ergota Squibb's ℥ii, ʒi to be injected every thirty minutes. Five injections completely arrested the hemorrhage without any coagula in the urethra, demonstrating very clearly, to my mind, that in ergota we have a valuable styptic, which exercises a positive and marked influence on the vessels causing contraction. I close with the usual "rapid recovery."

A CASE OF IRITIS.

By W. R. AMICK, M. D., Cincinnati, Ohio.

Amanda R., æt. 26, American housewife, is a delicate woman of nervous temperament. Never has been troubled with rheumatism, and never has had any venereal disease. Although delicate of constitution yet she does not present the symptoms of a scrofulous diathesis. Never had any ophthalmic trouble until the 12th of June. At that time she was exposed in a rain getting very wet. The next day her eyes began to get sore. They continued to get worse for a week, when she could no longer attend to her household affairs, when she applied for treatment.

On examination found that the patient had double iritis, being worse in the left than in the right eye. Had pain in and around both eyes. Photophobia, lachrymation, and the circumcorneal rosy zone existed in a marked degree. The aqueous humor was slightly turbid. The irides were of a dusky-brown color, and did not respond to light. On the posterior surface of the cornea there were three opaque spots.

The patient was put upon a mercurial course containing opium. Atropine was ordered in both eyes every two hours. The next day there was less pain, the symptoms in the right eye being improved, a fair dilatation of the pupil existing. In the left eye there was no improvement, and very slight, if any, dilatation of the pupil. The atropine was ordered in this eye every five minutes for half an hour, and this to be repeated four times during the day. On the fourth day there was only a slight dilatation of the iris, but sufficient to show that posterior synechia existed at the superior and inferior margins of the pupil, involving more than half of the circumference. An eight-grain solution of atropine was used besides applying pulv. atropia sulph. directly to the eye. Twenty-four hours after this course was instituted there was a good dilatation of the pupil with a decrease in the severity of the symptoms. Patient did not notice any unpleasant effects from the atropia. The palpebral conjunctiva was considerably congested, and the tears, when secreted freely, as after the application of the atropine, ran down over the cheek, only a small portion passing through the punctum. This course was pursued for four days, when the ordinary four-grain solution was again resorted to. She improved rapidly until the 25th, when she had a relapse, the result of getting her feet wet. All of the severer symptoms again presented themselves. The iris of the left eye contracted, and the eight-grain solution and powder were used. The cornea appeared to be bulged forward, and there was a deepening of the anterior chamber. Vision was almost nil; could not count fingers at two feet. After using the stronger solution for three days, and not succeeding in procuring a dilatation, paracentesis of the cornea was performed. Following this, the iris responded to the atropine, and the mercurial was increased from one half grain every three hours to one grain; the opium, one third of a grain to the pill, being continued also. This course was continued for two days when slight ptyalism was produced. The symptoms were all improved, the photophobia having subsided so that the light was not painful. From this time on she continued to improve under the use of atropine alone, until the end of the fourth week, when the case was dismissed.

As a rule a four-grain solution of atropine is sufficiently strong to procure a dilatation of the pupil, but I think the good effects of a stronger solution is shown in this case. The danger is from its producing constitutional effects. The paracentesis, no doubt, assisted very materially after the relapse. The hypersecretion of the aqueous prevented the free absorption of the atropine, but when the tension was relieved by the operation, then the effect of the medicine soon became apparent.

Selections.

FASHION AND ITS PENALTIES.

By Washington L. Atlee, M. D.

Gynæcology (the disease peculiar to women), as a branch of study, was scarcely known half a century ago. The vast discoveries made in uterine pathology, and the advance in the treatment of the diseases of females, even in the life-time of many of us, are beyond estimate. A large majority of the members of the Society can well appreciate the extent of this progress. Old physic, if he has kept pace with the course of events, will acknowledge that in the early part of his professional career he knew little or nothing, comparatively, of the proper treatment of such diseases He can look back and call to mind scores of patients who went down into the grave without relief, and who could have been saved had he possessed that knowledge which the profession now claims. The proportion of female diseases, however, was no doubt much less in the earlier part of this century than it is now, because the habits of the people were much more simple and healthful than in the present day. Ladies then occupied the good old-style one and two story houses, well-ventilated by wood-fires on open hearths; wore six yards of material for a dress; supported by suspenders upon their shoulders; did not constrict their bodies below their waist to the smallest possible wasp-like dimensions, but allowed their lungs to expand in the normal direction; wore low-heeled shoes to enable them to walk erect and throw the centre of gravity on to the spinal column, where it properly belongs; walked and lived much in the open air; rode on horseback instead of going in carriages, which are a modern luxury; retired early to bed and arose therefrom early; did not revel most of the night in over-heated, crowded, and badly-ventilated rooms, nor slumber away the whole of the next morning in their close chambers, while the balmy fresh air outside was inviting them to its embrace. Age may have blunted my sensibilities and clouded my judgment, but I remember that in the ardor of youth, I admired the girl of that day as eminently healthful, rosy, buxom and beautiful; and no doubt Thompson had the same lovely object in view when he wrote:

> "A native grace
> Sat fair proportioned on her polished limbs,
> Veil'd in a simple robe, their best attire,
> Beyond the pomp of dress: for loveliness
> Needs not the foreign aid of ornament,
> But is, when unadorn'd adorn'd the most."

But as time has advanced customs have become different, and in proportion as they have departed from simplicity have the infirmities of women increased. Our dwellings have risen to three, four, and even five stories, and in like proportion have dress patterns augmented. The amount of dry goods required to furnish one dress now would have sufficed to clothe four or five of our good mothers when they were young women. How can we explain this singular phenomenon? Have the dimensions of our lovely sisters quadrupled, or has that remorseless goddess Fashion imposed upon the tender frame immense weight! Look at the interesting, delicate girl, pallid and wan, struggling wearily under a weight of clothing which the strongest of our sex would not tolerate; all suspended, not upon her shoulders, but upon her necessarily constricted waist. See this beautiful pea-fowl as she drags her long trail through the tobacco-juice, the slush and mud of our dirty pavements, scraping up sticks, straws, old paper, cigar-stumps and filthy quids of tobacco, and dropping them at every crossing—and thus block after block repeating the same disgusting and injurious performance! After such a scavenger-like promenade she finally reaches home, dragged out with the heavy burden she has carried, her costly silk or satin skirts all smeared with the most offensive filth, her stockings soiled, and her limbs wet and cold! You will notice, also, gentlemen,—I say gentlemen, for I am addressing you, and it is presumed that ladies do not hear me—that your patient has much material in her mere flounces and her enormous pack-saddles (I will not mention the technical name) as would make an old-style dress, and which is so much additional useless and injurious weight. But this is not all. Let us look at the leather and prunella. Follow in the footsteps of this fair one, and examine the imprint of her shoes, the heel-mark scarcely larger than the thumb-nail, then a skip, and then again the impression of a very narrow sole. Measure her tiny track. Behold! it is only five or six inches long? What a celestial foot for so stately a maiden! Our antipodes in the Celestial Kingdom—the heathen Chinese—could scarcely do better. Now look at this artistic shoe; you will notice several peculiarities—a heel about two inches high, shaved down almost to a point, and planted forward almost under the instep. What a commentary upon the work of the Creator! He designed the os calcis for the heel, but the worshiper of Saint Crispinus says that it is properly located under the scaphoid and the cuboid bones, Nature has made the sole of the foot, at least the points of support, on the same level, but Mr. Lapstone says this is a mistake, and hence he tilts it up two inches higher behind! What is the effect? A lady's foot is crowded forward, all her toes are jammed together, and the great toe, which should be in line with the inside of the foot, is forced outwards across the other toes. Besides, she is constantly walking down hill, and, indeed, in regard to health, is really going down hill all the time. If we could substitute the *anatomical* for the *fashionable* shoe maker, no such outrage on the laws of hygiene could occur.

Let us glance for a moment at the pathology of these dogmas of fashion. Examine a lady in full dress thus poised: high heels, and a constricted waist supporting from ten to thirty pounds of merchandise! She cannot, if she would, maintain a perfectly erect position. Look at her figure: her heels are titled up, she is partly on tiptoe; the feet, head, and shoulders are thrown forward, and the hips must necessarily take an opposite direction to maintain the proper equilibrium. Why, this is a caricature, a burlesque on female beauty! But when she stands forth as God has made her—erect in her fine proportions; with her full, finely chiseled bust; her ample waist responding naturally to every inspiration; animated by the glow of vigorous health; and clothed so as not to clog any vital function, nor hide every grace, and walks forth as only she can walk who practically recognizes the physiology of the foot; she carries herself with true majesty; she is "a thing of beauty and a joy forever," and we bow down in adoration to the most beautiful object in creation. Drop the plummet from her fair forehead, and the line is parallel with the axis of her body, while in the other case it falls anterior to the body, resembling the string when taut on its bow, and forms the hypothenuse of an obtuse triangle. Sure then Venus de Medici was never chiseled from such model!

> "Old as I am, for ladies' love unfit,
> The power of beauty I remember yet."—DRYDEN.

But this is not all. Beauty and health are twin sisters. Examine these two beings under another aspect. Place your line on the mastoid process of the one, and the plummet, as it should do, will strictly indicate, the axis of the spinal column, and malleolus. This, therefore, is the centre of gravity, and its force does not impinge upon a single vital organ. Make the same experiment with the other. The line of gravity will be very different; it leaves the vertebral axis, and passes through the organs of the chest, the viscera of the abdomen, and impinges upon the pelvic organs. Add to this a waist contracted and rigidly fixed. Now what must be the result? The upper wall of the thorax being an unyielding cone, and its lower border rendered incapable of expansion, the only compensation must be in the direction of the least resistance. We all know where that is. There are from twenty to forty inspirations every minute during every day of our existrnce, and in such a faulty attitude of the body the diaphragm is driven down by each inspiration, in the line of the centre of gravity, like the piston-rod of a pump, forcing every organ below it more or less out of place. All violent and unusual exertions of the body also act in the same direction.

Is it any wonder, therefore, that the diseases peculiar to females should have increased to so alarming an extent? And is it strange that, with all these counteracting causes, we should find those ills so difficult of cure, and, when cured, so apt to return? It is fortunate for women, amidst the follies of dress and the foibles of fasionable society, that pathology and treatment have made so much progress in uterine troubles. Were we not in advance of the knowledge of old physic, and did we possess no better means of combating the destructive influences of the times, our households would become female hospitals, and the treatment of such diseases would be an opprobrium to medicine. But to do the best we can, this "patched-up" existence is but a poor substitute for that buoyancy of health and spirits which is the natural birthright of the majority of women.

I have often said to my lady patients privately, and, gentlemen, I say it to you publicly, that if the ladies of this country, instead of being travestied by milliners and mantua-makers, and enslaved by every change in the tide of fashion, would, before adopting them, submit their costumes to a committee of medical men, or better, of medical women, they would be infinitely more comfortable, would enjoy better health, more satisfactorily fulfill the duties of maternity and of marital life, and meet the requirements of every domestic and social position. We certainly would recommend clothing carried with ease and comfort; we would suspend all garments upon the shoulders; we would not constrict the most important part of the body, making that portion of the chest, which is naturally the most expansive, a contracted, immovable *point d'appui* for every inspiration to drive down and displace the vital organs; we would have the shoe to fit the foot, not forcibly adapt the foot to the shoe; we would order the heels to be low and broad, and placed where the Almighty designed them; we would discard the furs from the neck and shoulders for common use, reserving them for extraordinary occasions; and veto the use of unwieldy masses of false hair—as these portions of the body are so near the centre of circulation as to have their heat well maintained; in short, in adopting any style of dress we would do no violence to the laws of physiology and hygiene. This could always be accomplished in perfect harmony with good taste. The health of women, which is so intimated associated with the beauty, welfare and happiness of the whole human race, is too valuable to be sacrificed to the blind and indiscriminating tyranny of fashion.

In these remarks I mean no offensive criticism on the manners and customs of the day. I am incapable of this. As physicians, we should be the conservators of public health; and we have no legitimate right to be counted in the profession, if, through any mercenary or other unworthy motive, we fail to promote is in every possible way.

Growing out of the debility and ill health to which our female patients are so often the victims, is the resort to tonics, stimulants, nervines and opiates, the former to maintain their strength, and the latter to quiet their nerves. This, I regret to say, is not sufficiently discountenanced by the profession, and often degenerates into a habit which entails a life-time of misery and distress. Tonics and stimulants can rarely, of themselves, add tone or strength to the animal system, and to regard them and to employ them with that view, is, to say the least, a most hazardous proceeding. There are times when they may be employed to advantage, but I apprehend that the cases requiring them are comparatively rare. Permanent strength is the result of molecular nutrition. And true nutrition is the effect of the assimilation and appropriation of wholesome food supplied to the stomach, mingled with an elaborated pure air inhaled by the lungs, and then subjected to the recuperative and depurative processes throughout the whole body—while the great pendulum required to keep this machinery in healthful action is exercise both of body and mind. The functions of life require both motion and rest to maintain them in a normal condition. Constant activity will destroy them by wear and tear, while uninterrupted inertia will sooner or later paralyze vital force. Bandage the arm in an immovable splint, and in six or eight weeks endeavor to exert its muscular power. It is gone. As with the muscular system so with the health of all other anatomical divisions of the body—exercise, in due proportion, is essential. If, then, our American ladies would depend upon exercise in the open air conjoined with simple habits, non-luxurious living, and cheerful company, more than upon tonics and stimulants, they would soon secure that vigorous state of health that would enable them, by an effort of the will, to discard that other vice of using nervines and opiates for every trifling irregularity of the nervous system. It would be cruel to deny to the suffering some mild sedative, but the constant dependence upon such agents is weakening and demoralizing, and lowers the mind from that supreme influence over the body which is its rightful dignity. Besides, there is a terrible responsibility associated with these habits on the part of mothers which can scarcely be estimated. You will understand this when I announce the words of a prominent London physician, who says: "*the babies of London are intoxicated from the time they are born until they are weaned.*" How far this will apply to the little innocents of America I will not petend to say; but the enormity of the practice, if such exists, may be estimated by a reference to the decalogue, which tells that the iniquity of the parent shall be visited upon the children unto the third and fourth generation.—*New York Sanitarian.*

RESPONSIBILITY OF THE INSANE FOR CRIMINAL ACTS.

The Reporter, Dr. Isaac Ray, of Philadelphia, remarked that there are still great differences of opinion among physicians, lawyers, and men of the world on the question, how far insanity shall be admitted as an excuse for crime. Lord Hale's doctrine that partial insanity—that in which the patient is reasonable and correct on many subjects—does not necessarily exempt one from the penal consequences of crime, still shapes the decision of English and American courts. Tests for determining what kind of partial insanity does, and what does not, excuse for crime, are diverse, unsatisfactory, and none supported by correct scientific knowledge of insanity. Delusion has been decided to be a sufficient excuse only when the criminal act committed under its influence would have been legally justified, had the delusion been true. Notwithstanding many of the insane think and act correclly to some extent, yet it is impossible to say with any near approach to certainty in any given case where sanity ends and insanity begins.

Two mistakes are made by lawyers in estimating the responsibility of the insane, viz: They define the scope of the influence of the mental disorder in an arbitrary manner, unsupported by the facts of psychological science, and they regard the effective faculties as without any part in the play of disease. The latter mistake prevades the theories of the law and the judgments of those who pretend to know law. The moral, like the intellectual faculties, are dependent for their exercise on the brain—the larger part of the brain, probably, being devoted to this purpose. Consequently, disease of the brain must necessarily affect the manifestations of these faculties. Whether the one or the other class, or both, is affected will depend on the part of the brain diseased. Sanity supposes the integrity of all the faculties, moral as well as intellectual. If this integrity is destroyed, insanity is the result, wherever the lesion may be. Whatever faculties may be affected or not affected, apparently, responsibility is presumably impaired. It is for the party alleging the contrary to prove it. Punishment of persons admitted to be insane, for criminal acts, has been advocated for the sake of the example. No good effect can be shown by a single case in point. Patients in our hospitals are never punished; they may be deprived of a favor or privilege which they have shown themselves incapable of using properly.

Wrong as our present mode of procedure is, no change for the better seems very practicable, unless it may be that which takes the question of insanity entirely from the court, and gives it to the jury as one exclusively of fact.

After the discussion, the following was adopted by the Section: "There is at present manifested a tendency to hold the insane responsible for the commission of acts; that this tendency is unjust, unphilosophical, and contrary to the teaching of pathology, which clearly points out that insanity is the expression of disease."—*Med. Weekly.*

OUTLINES OF PAPERS READ BEFORE SECTIONS OF THE INTERNATIONAL MEDICAL CONGRESS.

SECTION ON MEDICINE.

TYPHO MALARIAL FEVER—IS IT A SPECIAL TYPE OF FEVER?

The Reporter, Dr. J. J. Woodward, Assst. Surg. U. S. Army, made some preliminary remarks on the mortality of armies from disease, with comments on the comparison recently drawn by Prof. Virchow, between the mortality of the U. S. armies during the late civil war, and that of the German armies during the war with France. He then spoke of the fatality of camp fevers during the American civil war. There was a general belief among medical officers that these fevers represented a new type of disease. The proposition, however, which he submits is that whenever great armies campaign in malarial regions, the prevalent fevers are hybrids, between malarial fevers and some form of typhus, and are not special types of disease. Historical proofs were drawn from the siege of Naples, 1528; from the Hungarian campaigns from 1526 to 1788; from the morbus mucosus of Rœderer and Wagler; from the Walchern expedition of 1809; and from Virchow's comments on the fevers of the German army in France.

He next made some remarks on the distribution of malarial and typhoïd fevers in the United States. New England, New York, West Virginia, and some other sections are free from typho-malarial fever; but it prevails in the southern states and on the Atlantic coast, increasing as we go south. Typhoid fever is more frequent in the north, but exists everywhere. It decreases as we go south, but areas occur in which it is prevalent.

As to season of the year, typho-malarial fever, like typhoid, occurs most intensely in the autumn. Leibermeister compared the statistics of typhoid fever, and found it generally autumnal, except in Milan. In numerous portions of America, intermittent and remittent fevers once prevailed where they are now scarcely known to exist. Intermittents decreased, and remittents took more and more the form of typhoid fever. When periodic fevers become epidemic, typhoid fever retires until the former disappear. Drake and Dickson early recognized the hybrid forms of these diseases, and since them Europeans have frequently remarked it.

The term typho-malarial fever was never meant to represent a specific type of fever, but simply to designate all the many-faced brood of hybrid forms resulting from combined influence of the causes of malarial and of enteric fevers.

There were two great groups of cases during the civil war. In one, the malarial element at first predominated; but after a week, typhoidal symptoms set in, although some symptoms were absent, as rose spots and diarrhea. Many cases, Dr. W. thought, recovered because of the free use of quinine. In fatal cases, there was evidence of only sharp catarrh of the bowels; but sometimes Peyer's glands were swollen and pigmented, or the surrounding mucous membrane was pigmented. In other cases, the spleen and liver were enlarged, and a diphtheritic condition of the mucous membrane of the bowels was found. In short, every variety of difference between typhoid and intermittent existed. In the other group of cases, typhoid predominated; but there was an unwonted tendency to intermissions. There were also agues and gastric disturbances. After death, these cases showed only typhoid lesions. The spleen was much enlarged in many cases. Uncomplicated typhoid was not the prevailing form, whatever may have been said.

During the war, a scorbutic taint was also wide spread, and must have influenced the general condition of fever patients. In fatal cases, Peyer's patches appeared as black sloughs, evidently modified by the scorbutic element. This element was only the accident of the war. Dr. W. believes, however, that, notwithstanding what has been said, simple uncomplicated typhoid and simple remittent fevers did now and then occur.

Drs. Bartholow and Scott, of Ohio; Pepper, of Philadelphia; and Edge, of Camden, in the discussion, dwelt upon the frequent occurrence of hybrid types of the two diseases which make up typo-malarial fever, and upon the varying forms and prevalence of the disease in certain sections during long periods of time. As it prevails in malarial regions in times of peace, it also demands the closest investigation of physicians in civil practice.

After full discussion, the Section adopted the following conclusion: Typho-malarial fever is not a special or distinct type of disease; but the term may be conveniently applied to the compound forms of fever which result from the combined influence of the causes of malarial fevers and of typhoid fever.

Professor Estlander, of Finland, presented an interesting paper on the alternation of malarial and typhoid types of typho-malarial fever in certain regions of his native land. Referred for publication.

ARE DIPHTHERITIC AND PSEUDO-MEMBRANOUS CROUP IDENTICAL, OR DISTINCT AFFECTIONS.

Reporter, Dr. J. Lewis Smith, Physician to New York Infant's Hospital, maintained that croup is a local malady, while diphtheritic laryngitis is but the expression of a general malady. True, the anatomical characters are identical in kind, as regards the state of the larynx; but they differ in degree or intensity. Clinical facts were adduced to indicate the duality of the disease.

Dr. Pepper called attention to the anatomical identity of the two diseases, and suggested that chemically and microscopically no distinction between them has been demonstrated, either in the exudation itself or in the mucous membrane, except it might be a slight question of degree, scarcely in itself sufficient to establish the view of essential diversity of nature. He regarded it as hazardous in the extreme to assert that these diseases are radically distinct, and found himself constantly drifting more and more towards the view that there is a constant pathological analogy between the two, that they are forms of one great pathological condition. He admitted the difficulty of discussing at present the question of contagion.

Dr. Gibbon, of California, is convinced that the distinction is real, and that there are two diseases to be dealt with. It seems the wheel must turn, and, in medicine as elsewhere, every twenty or thirty years a revolution must take place; and we now see a disposition to regard these diseases, which we have learned to know as two, separate and distinct, again as one and the same.

Dr. Hare, of London, stated that this is now a special subject of investigation in a sub-committee of the Medical-Chirurgical Society of London. He desired to hand to the chairman a printed list of questions bearing on the matter, which have been prepared by that committee for circulation, with a view to obtaining the facts as they occur to the profession at large. He adduced the contagiousness and the paralytic *sequelæ* of diphtheria as unanswerable arguments in favor of the non-identity of the two diseases.

Dr. Howard, of Montreal, could not believe that the matter is one definitely settled in the minds of scientific men. Not only is the London profession in doubt, but also physicians of the French school have always taught and still teach that there is but the one disease. The paper of Dr. Smith was an excellent presentation of much that was true, and a great deal of long, honest work would have to be done before some of its statements could be controverted. The need of careful post-mortem examinations of undoubted and unquestioned cases of so-called pseudo-membranous croup was pointed out.

Remarks were made by Drs. Smith, of Massachusetts; Oldright, of Toronto; Carr, of New York; Bartholow, of Cincinnati; Maddin, of Tennessee; Ayres, of Indiana; Davis, of Chicago; Hamilton, of Nova Scotia; and Woodward, of Washington.

DO THE CONDITIONS OF MODERN LIFE FAVOR THE DEVELOPMENT OF NERVOUS DISEASES.

Dr. Roberts Bartholow, Professor Theory and Practice of Medicine Medical College of Ohio, the reporter, alluded to the numerous references in the writings of the ancients to mental and nervous maladies. He remarked upon the influence in ancient times of those conditions supposed to be most active in our day in the production of nervous maladies, viz: social excitements, political revolutions, sexual excesses, indulgence in wine. He next referred to the recognition of nervous maladies in the sixteenth century. If in modern times an increase in nervous maladies had occurred, the result must be exhibited to a limited extent in an increased sickness and mortality rate. With the improvement in the general well being wrought by our modern civilization, a manifest increase in longevity has occurred. With an improved hygiene, the sickness rates and the mortality from epidemics have diminished. He thinks the supposed increase in the number of nervous diseases is more apparent than real.

The art of printing has greatly increased the diffusion of knowledge among men; and hence every medical fact has not only a more prominent record, but is more generally known. In modern times, within this century especially, nervous diseases have been more accurately studied and better differentiated. Moreover, the growth of a higher humantarian sentiment has led to a more abundant provision for the insane.

The Section recommended the publication of the paper, without, however, expressing an opinion on the question involved.

Dr. Green stated that the ancients were well acquainted with these diseases. Apoplexy was well known in scriptural times, and many of the characters of biblical history suffered from it. In these times it is said too often that the subjects of these diseases are the victims of mental strain and worry; but the ancients, who likewise suffered from them, had not the business strain of this day. Statistics of insurance companies show an apparent increase in recent periods of the death rate from nervous diseases; but this increase, as shown by the figures, is due to the fact that more old persons insure their lives to day than formerly. The percentage of insanity was exceedingly small, and, compared with that of whole communities, even that of apoplexy was not large. From personal observation, he was disposed to regard such diseases as very rarely the result of overstrain.

Dr. Gibbon said that there is nothing in the records of antiquity nor in modern statistics to settle the question. The figures of insurance companies cannot be relied upon. Mortuary statistics refer to deaths, and do not indicate the prevalence of diseases of this kind. If Dr. Bartholow were to reside in California, he would change his mind as to the increase of nervous disorders in that quarter. The increase was conspicuous, and there are causes operating which must have that effect. A large portion of the population consists of men without family ties or settled homes. Passions of all kinds get control. Wild speculations prevail. The making and losing of fortunes in a day not infrequently occur; and men engaging in such a life too often end it by insanity or suicide. The number of cases of cerebral disease is notable. He was not prepared to say what the condition of society in old and settled communities might be in reference to this question, but he believed that moral and physical causes of a disturbing character were more abundant than formerly everywhere.

Dr. Neftel had no doubt that the causes of nervous diseases have increased in modern days. He alluded to the influence of heredity in augmenting such disorders; the effect of the change of occupation in causing greater and much more general mental activity, the present extended use of alcoholic drinks, and to syphilis. The last is a fruitful cause of nerve-disease, and is not found to have existed among the ancients.

Dr. Maddin agreed with the author of the paper that there were no new diseases, since all disease is but an error of the tissue or function of an organ; but that modifications of diseases arose out of the peculiar surroundings of modern life.

Dr. Arnold, of Baltimore, thought that the opinion that nervous diseases had increased in modern times originated not with the profession at large, but with the specialists. If they were increased, it must be attributed to the influences of modern life, and especially to the race for wealth, and the close competition resulting from it. Intellectual men are generally long-lived. He thought shocks more detrimental than close and long application. Anciently, wars and turmoil were more common. To-day the mind is trained and disciplined, and thus made, to an extent, proof against shocks. He believed that the nervous system accommodated itself to the strain put upon it. The agency of syphilis in causing insanity was, to him, an obscure one. Medical men allow themselves to be influenced by the tirades of temperance orators. It was difficult to establish alcohol, as at present used, as having a marked influence in the production of insanity. He believed that periodical drunkenness, instead of being a cause of mental disease, was, in nine cases out of ten, only the warning of its approach.

Dr. Davis regarded the question as of very wide scope, and as extremely difficult to determine, in the present state of our knowledge. The present state of society in California had been mentioned. Compare the crusades, in which all Europe was aroused by a religious war, and armies went forth by the hundreds of thousands to the field of battle. Here was a condition adequate to produce, and which doubtless did produce, special tendencies towards the development of mental disease. He thought very few brains ever wear out by work. Increase of nervous diseases was to be attributed to other causes, and instanced wickedness. He thought that Saul got his paroxysms of mental derangement from wickedness—not from study—and that most of the mental disease of to-day arises from the same cause. Alcohol, tea, coffee, and tobacco have much more to do with the etiology of nervous diseases than brain work.

Dr. Howard, of Canada, spoke also of the abuse of the various stimulants as a cause of nerve-diseases. The part played by syphilis in producing diseases of this class was a well established fact. The men of to-day also work faster, in fact, at express rate. Everything was done in a hurry. If by this organs are disturbed, that disturbance is transmitted to nerve-centres, and its prolonged action gives rise to impaired health. The weight of evidence favors the idea that there is a tendency towards increase of diseases of the nervous system.

Dr. Bowditch, of Boston, partly attributed to the climate, and to constant and intense political excitement, causes not yet noticed, the increase of nervous diseases in America.

Dr. Green said that suicides prove nothing. Many people commit suicide from bad humor, from love, etc, The idea that a man could hurt himself over books is preposterous; he might fret himself.

Dr. Bartholow reviewed some of the points brought out in the discussion. He thought that the statements of specialists should be taken with a great degree of allowance. They seemed to have based the opinion that nervous diseases were increasing upon the fact that they see more cases than formerly. They forget that that is the result of the increase of their individual business as their practice grows and their reputation extends. The assertion that had been made to the effect that syphilis is a modern disease is doubtful. His great answer to the argument was that men are larger, stronger, and better in every way than in former times. A modern Englishman could not wear the old armor. Men were also able to do more intellectual work. If the Geneva statistics were worth anything, they prove that the longevity of man has doubled within three centuries. As to the climate of America, it has been found that longevity is greater here than in England.

THE INFLUENCE OF HIGH ALTITUDES ON THE PROGRESS OF PHTHISIS.

The Reporter, Dr. Charles Dennison, of Denver, Colerado, first referred to the past history of the climatic treatment of phthisis. The climates of high altitudes were considered by their important attributes, which were contrasted with the same qualities in less elevated health resorts; in America the elevated inland plains and "backbone" of the continent, between elevations of four and ten thousand feet, being matched with seaside and inland resorts below the elevation of two thousand feet.

Too much importance has been placed upon *equable temperature*, equability often entailing excessive moisture and other conditions comparatively unfavorable to the majority of consumptives. Cool, dry climates are better than warm, moist ones. It is unjust in the advocates of low climates not to consider the *relative humidity*. Is the comparison of high and low altitudes by the relative humidity of each, temperature being accounted for, fair? As to the *diathermacy of the air*, the conditions for the greatest benefit from the direct influence of the sun grow more favorable with increasing elevation. He then considered the influence of *electric tension*, *ozone*, *etc.*, their increase in high altitudes, peculiar effects, and great utility. In analyzing the subject of altitude, he remarked upon the conditions of respiration. Influence of lessened atmospheric pressure upon the circulation and animal economy was also considered. He next discussed the question, to what extent does phthisis originate above the elevation of five thousand feet? Instances were analyzed, and the favorable conditions for preventing phthisis and lengthening the years of the naturally short lived were pointed out.

In the *treatment of phthisis*, the utility of high altitudes rests upon the *adaptability* of climate to the needs of special forms and complications of the disease, as shown by comparison of experience elsewhere. Injurious effects of great elevations, precautions, etc., were dwelt upon. He then spoke of the relation of typical cases, with analysis; inferences and conclusions. He also advised when and how to go to the Rocky Mountain slope; kind of life to lead; advantages in winter and summer compared. A partial recovery necessitates a permanent residence. The remedy of high altitude is too long delayed in the majority of instances.

Dr. Duffy, of North Carolina, spoke of the rarity of consumption in the high portions of his State. The customs of the region had something to do with this. The people led an out-door life. He also had observed the climate of Southern California, where but little rain falls, the sky by day being cloudless, the air heavily laiden with moisture after sunset, so that vegetation is sustained for long periods without rain. There phthisis is rare.

Dr. Baldwin, of Florida, had studied the subject for thirty-eight years in his own State, so far as climate is concerned. He doubted whether all the beneficial effects mentioned by Dr. Dennison were the result of altitude. He had witnessed the same effects in Florida, which was submerged below the level of the sea, as regards atmospheric pressure. Consumptives get well in Florida too. It seemed that the change of climate was beneficial.

Dr. Dennison, in answer to the question, if out-door life and camping-out treatment was associated with the management of his cases in Colerado? replied that it was to some extent. Parties were formed for that purpose. They traveled by day, and slept in the open air in tents or wagons. In most cases out-door life was recommended.

Dr. Gibbons remarked that there was a danger in the way medical men looked at the matter of the climate-treatment of consumption. They were apt to pitch upon a particular climate as their favorite, and to allow themselves to be warped in favor of it. Too often they were ignorant of the climate of other places. He said the climate of California was almost absolutely dry. In the interior of the State, there is neither cloud nor fog for six months. If there is an equable climate on the face of the earth, it is that of San Francisco. He had scarcely found cases of pulmonary consumption developed there. There is no such thing as a *climate* of California; there are *climates*. He advised motion, travel and out-door life for incipient phthisis, the long sojourn in a climate that was found to suit any given case, abundant food, milk, cream, etc.

Dr. Stewart, of Minnesota, spoke of the dry, cold atmosphere of his State. He instanced cases which have been retored to health by a residence there, but thought it no place for persons unable to take out-door exercise.

Dr. Johnson, of Illinois, said he had known consumptives go to Denver, Colerado, Florida, to the mountains of North Carolina, Georgia, Tennessee, to the south of France, and each came back enthusiastic about the beneficial effect of his change of climate. Altitude could not be regarded as of itself curative. He believed that in the earlier stages of the disease patients were benefited by going to the mountains, but that when softening had set in, and cavities existed, it would be hazardous for them to do so. A warm, mild climate was then to be sought.

Dr. Hare, of London, had often advised long sea-voyages, and had seen his patients benefited thereby. Vast improvement had followed a voyage from England to Australia and back in cases under his observation. He called attention to the fact that phthisis existed in some of the high valleys of Switzerland, while it was unknown on the mountains of the same altitude where there is plenty of fresh air and longer hours of sunshine. High altitudes are good when the patients can take exercise; when they are feeble, he generally recommends a southern, genial climate. He protested against the use of alcohol, and said that in his country the alcoholic treatment of consumption had occasioned increased drunkenness among both men and women in all classes of society. The advice, "take a little wine or a little whisky," had been the cause of no end of disease, no end of misery.

Dr. Henry MacCormac, of Belfast, Ireland, through the Secretary, presented a paper on *the Open-Air Treatment of Consumption.* The paper contended that all tubercular deposits, no matter where situated, are ascribable to habitual respiration of air already breathed, proof being given to the writer's satisfaction, from observation and chemical analysis. He said that tubercle is only the effete waste of the animal organism; when effete tissue is not oxidized it is not expelled as carbonic acid. No other theory, no other treatment than open air, was, in his view, tenable. Drs. Edge, Maddin, of Tennessee, and Davis, of Chicago, took part in the discussion of the paper.

CLINICAL LECTURES.--CLINIC FOR DISEASES OF THE SKIN, UNIVERSITY OF LOUISVILLE.

By L. P. Yandell, Jr., M. D., Professor of Therapeutics and Clinical Medicine.

Gentlemen.—The *vesiculæ* come next in the order adopted in the beginning of this course. A vesicle literally means a little bladder, and the vesicular skin diseases are those in which we find small elevations of the scarf-skin containing the watery portions of the blood, and constituting, in common parlance, little blebs or blisters. Under this head I shall describe the two forms of *miliaria* and the several varieties of *herpes.*

Miliaria (from *milium*, the millet seed) we find on the skins of persons confined to bed by febrile affections, and especially where an excess of bed-clothing covers the patient. This is denominated *miliaria clinica*, or *sudamina alba.* The vesicles, from a pin's point to a pin's head in size, consist of tiny elevations of the epidermis, filled with translucent or transparent fluid, probably confined perspiration. No medication is called for.

Miliaria rubra is a more important malady. It is a true dermatitis—that is, an inflammation of the skin. The suffix *rubra* (meaning red) is given it because of its color.

You are all familiar with *miliaria rubra* under the title "prickly heat." Minute vesicles crowning small, pointed, red elevations, crowded together in flocks covering large extents of cuticle, most usual on the arms and neck, but found on all portions of the body, and occasionally covering the entire cuticle, and characterized by burning, stinging, pricking sensations—such is *miliaria rubra.*

Where the eruption is aggravated by irritants, and when the blood is in a depraved condition, prickly heat may degenerate or augment into eczema, pustules, furuncles. This is a disease of hot weather, and is peculiar to no period of life or class in society. Negroes have it less than whites. Its exciting causes are excessive heat, either solar or artificial; wearing flannel, too frequent bathing, the use of strong soap; in children urinary and fecal discharges allowed to remain in contact with the skin. Its predisposing causes are any conditions depressing vitality. *Malaria* is by far the most frequent predisposing cause. Dyspepsia, diarrhea, dentition and the use of alcoholic stimulants are common predisposing causes. Its treatment is simple. Proper clothing, proper bathing, proper food and drink, should first be secured. Next attend to functional disturbances. Apply to the skin astringent and anodyne ointments, if the skin be tolerably dry; if it be decidedly moist, use astringent and anodyne powders, such as chalk or bismuth combined with tannin and morphia. Bathing in solutions of salt or soda sometimes cures the eruption. *Quinine* in anti-periodic doses is our best remedy in severe cases, and seldom fails to cure. Soda should be given when acidity of the skin or digestive organs is manifest. Iron and the bitters are often demanded, and obstinate and chronic cases yield to arsenic. Mercurial cathartic in children are frequently beneficial.

Herpes we next take up. The name is from a Greek word, meaning to creep. The following are its chief varieties: *Herpes zoster* or *zona*, *H. phlyctenodes*, *H. febrilis*, *H. circinatus*, *H. preputialis*, *H. capitis*, *H. generalis*, *H. pudendalis*, *H. nasalis*, *H. auris*, *H. labialis*.

Herpes zoster, called by English-speaking people "Shingles," and by the Germans "fire-girdle," is quite rare. It consists in an incomplete zone or girth occurring on the trunk between the axillæ and the umbilicus, composed of vesicles from the size of a hemp seed to that of a bean. The eruption begins as a red papule. The vesicles are in clusters or flocks, forming a band a few inches to a foot in width. The vesicles are transparent, translucent, or straw-colored. They are situated on an angry red base. In some instances the two ends of the zone are on a level, and in others one may be many inches higher than the other. The popular belief is that if the eruption ever meets around the body death is certain; and the popular and most ancient remedy is the blood of a black cat's tail applied to the eruption. Both ideas are unfounded in fact. The vesicles may dry into a crust and disappear in six to twenty days, or ulceration with profuse suppuration may take place, or an abundant and prolonged watery discharge may happen and the disease be indefinitely prolonged. Pain of two sorts may exist in connection with *herpes zoster*. It may be in the girdle, burning like fire or stinging or aching; or the pain may be only in the bones, and of a boring, aching character. The first usually ceases with the skin manifestation; the second may endure long after the eruption is gone. The etiology of this is often utterly obscure. It may be malarial, catarrhal, or rheumatic in its origin, and sometimes seems due to disease in the nerve centres. Many cases will disappear without treatment; most yield satisfactorily to proper remedies. Some are incurable. The indications for cure are to remove the cause, if this be practicable, and to relieve symptoms. Antiperiodics, tonics, anodynes, alteratives, are our most potent remedies.

I have encountered but one incurable case. The patient was a Prussian seventy-six years old, in affluent circumstances, of splendid physique, and an enormous consumer of brandy, though never drunk. This was the first sickness of his life. The inflammatory pains in the skin and the neuralgic pains in the limbs, both were present in their most excruciating form. His case lasted nearly four months and was terminated by death from exhaustion. He got quinine, arsenic, iron, carbolic acid, the bisulphites, the iodides and bromides, mercury, the alkalies, cod-liver oil, sulphur, purgatives, strychnia and aconite without benfit. All the changes of hypodermic medication were rung on him with the result of only temporary relief. He took the various forms of opium, belladonna, Indian hemp, chloral and alcohol, etc. His pains seemed enhanced in intensity from week to week, and he declared he suffered the tortures of the damned. During the latter portion of his life he was kept under the influence of alcohol or opium, which he consumed in immense quantities. These two agents gave him the most certain and most prolonged oblivion to pain. You have before you a perfect representation of all the varieties of herpes in the plates and models, which are correctly labeled. On the trunk you perceive the band of vesicles constituting zoster, and on the forehead the patch of vesicles called *herpes phlyctenodes*. You observe this herpes appears in isolated clusters, and not in a band or zone. It is less formidable that zoster. Its etiology and treatment are that of "fire-girdle." *Herpes febrilis*, or fever-blisters, includes all the other herpes. They derive their names from their location or shape. When first formed these herpetic vesicles are observed to be divided into cells. They may dry up, suppurate, or remain long *in statu quo*. They may go and come in successive crops They are of malarial origin most frequently. They are not infrequently of catarrhal origin—that is, from cold. Dyspepsia, dentition, and uterine derangements may give rise to these herpes; so may a decayed tooth.

Herpes labialis (fever blisters on the mouth) occasionally in this climate, in bad cases, and more frequently further South, swells the lip to three or four or even ten times its normal size, and gives rise to exquisite pain. These blisters are first white and then yellow.

H. capitis, by matting the hair of the head and accummulating large crusts, is often vexatious to its possessor.

H. circinatus and *H. iris* are varieties of the same herpes, presenting rings of little blisters. It is especially a disease of the aged. It is sometimes mistaken for ringworm.

H. preputialis and *pudendalis*, unless aggravated by acrid discharges or harsh treatment, are in themselves most insignificant affairs. But because of their location they become, indirectly, most serious sores. *They are the doors by which syphilis most often enters the system.* Unbroken skin and sound mucous membrane are a cuirass, indeed a perfect defensive armor against syphilis. It is only when these coats are penetrated by inflammatory destruction or by an abrasion that the dread malady is dangerous by direct contact.

The treatment of the several varieties of herpes just considered is both simple and satisfactory. Remembering the causes I have enumerated, you are to discover and remove these if possible. Locally apply tannin and morphine in powder, solution, or ointment, as may seem indicated in each particular case. Use no soap on the eruptions. *Above all things never burn them.* By the way, this herpes is seldom seen in its vesicular stage. When brought to our notice we usually see small yellowish or grayish ulcers—the bases of the blisters.

Quinine is by all odds our best and certainest cure for these herpetic manifestations. Iron is almost always needed. Arsenic is well in the chronic cases. Soda should be given when acidity of stomach exists, and opium when catarrhal fever is the source of the herpes.

Pemphigus come in here better than elsewhere in the course. The word is of Greek origin, and means a blister. Its blebs or bullæ are from the bigness of a bean to a walnut. Sometimes the entire body is covered by these large bladders of serum, which burst and dry, or are absorbed, crop following on crop for months or may be years. I have seen this rare disease only in persons low down in the social scale, and of broken-down health. In all its forms it is eminently a disease of debility. The indications are, of course to build up the health. Treatment is most unsatisfactory. I have encountered two cases of profuse blistering on the arms, chest and legs, from contact with potato-bugs (*lytta vittata*), which closely resembled the constitutional pemphigus. These patients were farm hands who had been engaged in digging potatoes.

I should have mentioned to you in the proper place that what Tilbury Fox has described as *impetigo contagiosum* I consider simply herpes generalis. Quinine cures it with positive certainty.

The *crustæ* are the skin troubles characterized by crusts. Under this head we might discuss the vaccine and small-pox and rupia and itch crusts, but only the latter is a skin disease proper, and it will be treated of in a subsequent discourse.

Eczema in its various forms is the sole dermatitis I ask your attention to in this connection. Eczema means literally a boiling up or a boiling over. It is a moist eruption in its earlier stages, but becomes finally, in certain situations, and under certain conditions, a dry eruption. The drying of the moist exudation of eczema produces the crusts. Observe they are crusts, not scales. They are met with on all portions of the body, and the various eczemas obtain their names from their location, their color, or some other feature. Under the moisture and crusts you find a red, raw surface. Itching is usually decided and often tormenting. Smarting pain exists in some cases. The eczema you see in the leg pictured in the Sydenham plate is denominated *E. rubrum*, or red eczema, from its color. It is also called weeping sore-leg, because in some cases you have a serous exudation trickling down the leg like tears. *E. rubrum* is probably always associated with varicose veins. You notice them in the picture. An astringent and anodyne ointment on the leg and a well-applied roller bandage, together with such constitutional treatment as may be indicated by deranged organs and functions, will heal this eczema, though often it is most obstinate.

Eczema capitis and *faciei* you see on the face and head in the picture, and in these two little children. In one of them you notice eczema on the neck also. You have in both these cases crusts, moisture, redness, itching. The children are rosy and vigorous-looking; but on inquiry of the mother we learn that the little ones are teething; and further more, that in one the itching is most intense about four o'clock P. M., and in the other the pruritus is most vexatious at night. In these patients there probably existed latent malaria and the irritation of dentition to erupt as an eczema. Cold, indigestible food, or lice might have produced the same result, the malaria being present. Quinine is the remedy for acute eczema in a vast majority of cases. Arsenic and other antiperiodics may substitute it. Iron is always needed. Calomel in cathartic doses promotes recovery. Local treatment is not without benefit. These children will get the following prescriptions:

℞ Tannin	gr. x.
Morphine	gr. ij.
Carbolic Acid	gr. ij.
Benzoated oxide-of-zinc ointment (any other unirriating ointment might do as well)	℥ i.

Mix thoroughly and apply to the eruption. No soap must be used, and washing, even with simple water, should be done as seldom as possible.

℞ Calomel	gr. x.
Bicarb. Soda	gr. l.

Mix and make ten powders. Give one thrice a week at bed-time.

℞ Sulphate of Quinine	ʒ i.
Tannin	gr. xv.
Syrup of Tolu	℥ iij.

Mix carefully. Direct to shake well before administrating, and give each child four teaspoonsfuls daily, the last to be taken two hours before the period of severe itching is expected to commence. The first dose is to be given four to six hours preceding the last. Properly compounded, this is a tasteless mixture and therefore excellent for children. It is readily absorbed. It seldom nauseates. One of these children is two and a half years old; the other is a year younger. Children bear and require larger doses of quinine in proportion than adults. The antiperiodic treatment will be followed by the ferruginous and bitter tonics. As to diet, the children should have whatever they will eat. Meat and fruits are especially good for them. Never put on low diet any of your patients with skin diseases, and encourage all to use fats.

Chronic eczema may be mistaken by the careless observer for *psoriasis.* Psoriasis has silvery scales; eczema has crusts. Psoriasis is always dry; eczema is always moist in its earliest stages. Psoriasis is worst in winter; eczema is often worst in summer. Psoriasis almost invariably exists on the knees when the diseases effects the lower limbs, and on the elbows when the trunk is affected; eczema does not especially affect the knees and elbows. Eczema, as a rule, tends to recovery; psoriasis remains stationary or increases. Eczema is generally associated with some functional or systemic disturbances; psoriasis is often found in persons apparently otherwise in perfect health. Eczema is peculiar to no diathesis; psoriasis is a scrofulide, and evidences of the strumous diathesis may always be discovered by careful examination. The spots of psoriasis are smooth-edged, clean-cut in their roundish and ovoid shapes; the spots of eczema are irregular, rough-edged, unsymmetrical, and always rough on top. The psoriasis scales are often smooth to the touch. Remembering these distinctions, diagnosis is without difficulty.

SAYRE'S ORTHOPEDIC SURGERY.

Dr. James S. Green, of New Jersey, in the *New York Medical Journal* for September, gives the following excellent *resume* of the advances made by Dr. Sayre in orthopedic surgery:

"While yet a young man, and clinical assistant to the chair of surgery of his *alma mater*, Dr. Sayre conceived it eminently proper to anticipate what Nature would herself in time do with a suppurating ankle-joint, and freely incised it. From the moment that he dared to invade the sacred precincts of a synovial membrane with his sacrilegious knife he became a reformer—nay, a revolutionist—in orthopedic surgery, and was even regarded by some of his elder brethern as a 'freebooter and an outlaw.' We trace his progress in his favorite branch of surgery by the development of the following principles and facts, and with them the production of the necessary mechanical appliances. Prof. Sayre has demonstrated as surgical truths—

"1. That it is eminently proper freely to incise joints in suppurative synovitis, and to give them free drainage until all broken-down tissue is removed.

"2. That when the inflammation of a joint has not progressed to the destruction of any part of the organ, extension and counter-extension should be so applied as to keep the inflamed surfaces apart, while the patient also is allowed the use of the limb and exercise in the open air.

"3. That diseases of the joints are, as a rule, of traumatic and not of scrofulous origin.

"4. That reflex contraction, produced by pressure upon a contracted tendon put upon the stretch, determines the question and place of tenotomy.

"5. That club-foot should be treated and molded into shape at birth.

"6. That club-foot arising from paralysis should not be confounded with that form occasionally due to primary spasmodic contraction.

"7. Thot congenital phimosis and adherent prepuce is a most fruitful source of paralysis, hyperæsthesia, and choræsic spasm; and that circumcision almost instantaneously relieves the symptoms.

"8. The perfect practicability of exsection of the head of the femur, even in the most advanced and emaciated cases of morbus coxarious, *provided* all the diseased bone is removed, the pyogenic membrane scraped from the sinuses, and the limb placed in such a dressing as shall insure rest and free drainage to the wound, and allow the patient to be carried into the fresh air.

"This operation was first successfully performed in this country by Prof. Sayre in March, 1854, since which time he has performed it in sixty-three instances. Fifty-four of these eases recovered, or nearly ninety per cent.

"9. Exeision of a segment of bone above the trochanter minor for bony anchylosis of the hip-joint. This operation, orginally performed by Dr. Rhea Barton, was done in a modified form by Dr. Sayre twice in 1862, with perfect success.

"10. In Pott's disease the extension and straightening of the curved spine by the weight of the patient's lower extremities, and the application of a plaster.of-paris jacket, mark, as has been justly said by one of the oldest and most eminent surgeons of New York, 'an era' in the surgery of the United States.

"Too much can not be said of the value and relief afforded by this simple appliance, which has done more in six months to remove an opprobrium in surgery than all the screw-bands and pads of the last fifty years.

"11. The division of the *latissismus dorsi* muscle in rotatory lateral curvature of the spine, recently recommended and successfully practiced by Dr. Sayre, is but a reiteration of the same principle established by him long since as a rule for tenotomy in club foot.

GUNSHOT WOUND OF THE SKULL.

Ball Retained Seven Years; Epileptiform Convulsions; Operation--Cure

By THEODORE A. DEMME, M. D., of Philadelphia.

On the afternoon of September 9th, 1868, Mr. C. F., aged 20 years and 9 months, in a moment of great excitement, shot himself in the right side of the head, using an old single-barreled pistol, loaded with several balls. He was removed the same day to the Pennsylvania Hospital; he was unconscious and continued so for a considerable time afterward. An examination revealed a gunshot wound in the right temporal region. The soft parts were lacerated and torn, the wound, extending almost verticallly upward for several inches, showing that the charge had glanced in that direction. The same evening numerous pieces of splintered bone were removed, and, according to Mr. F., a ball extracted. He remained for a long time in a critical condition, but, under the skillful care and attention received, gradually improved, and seventy-three days after his admission to the hospital he was discharged, cured. His health continued good, and he was able to attend to business without a day's intermission. In the course of time the very remembrance of his narrow escape had almost faded away.

On the 17th of June, 1875, almost seven years after the gunshot injury, he became overheated at his work (morocco-dressing), and started for home about four o'clock, feeling "dull, heavy, and dizzy in the head." On the road home he purchased some grapes, and arriving at his house about half-past four o'clock, sat down on the sofa, alongside of his young wife, and ate a few of the grapes, when suddenly he fell backward, totally unconscious. I saw him shortly after five o'clock, and found him in bed, unconscious; very high fever; full, hammering, slow pulse; skin dry and hot; pupils contracted. The remarkable phenomenon presented itself of violent clonic spasms of the left side, the muscles of the entire side rapidly contracting and relaxing, the limb, arm and left face being in constant spasmodic motion; the right side meanwhile remaining perfectly quiescent.

Upon my arrival, I found that the impression upon the minds of the many friends and neighbors who had assembled was that the patient was suffering from a "heat stroke." They were confirmed in their opinions, in the first place, by the fact that he had stopped work, stating that he felt overheated; and, in the second place, that in 1864 he had had a sunstroke, and for many hours remained in a very critical condition. The symptoms, however, led me to a diagnose active congestion of the right cerebral hemisphere, and the treatment was accordingly so directed, viz.: leeches to the right temple, cupping to the nape of the neck, powerful revulsives to the limbs and spine, and active purgation. About midnight there was a decided amelioration of the symptoms, and shortly after administrating a dose of bromide of potassium (gr. xx) and chloral hydrate (gr. xv) he appeared to fall into a profound sleep. The next morning I found him perfectly conscious, complaining of weakness, muscular soreness and headache. He rapidly improved, and at the end of a week resumed his work. After the lapse of a month Mr. F. visited me in the office, to obtain relief from, as he described it, intense neuralgia of the head. The remedies I prescribed afforded no relief. In August he was suddenly seized, while in bed, with an attack very similar to that of June above described. The epileptiform convulsions of the left side were not so violent, and consciousness was not entirely gone; he could be aroused to answer questions, and frequently groaned, "My head, my head." His recovery was so rapid that on the third day he was able to take open-air exercise. I condense the rest of the history:

Every few months there was a return of the peculiar spasms. The pain in the head increased so as to be almost unbearable; he became morose, low-spirited, desponding, and at last so desperate that he thus expressed himself to me: "Doctor, I cannot live this way; at one time those spells, and at another this terrible pain; give me relief, or let me die."

Frequent examination enabled me to discover at the upper end of the furrow marking the course of the gunshot wound, about an inch and a half above the ext. aud. meatus, a spot exquisitely tender upon pressure, and apparently elevated above the surface of the skull. Being convinced that either an ostosis or the presence of a foreign body was the cause of the train of symptoms, I determined to perform at least an exploratory operation, to ascertain, and, if possible, remove the cause of the suffering.

On the 8th of April, assisted by Dr. J. P. Bethel, I made a long vertical incision through the soft parts down to the skull, separated the lips of the wound, and freely exposed the prominence which had guided me; it was a bony elevation, irregularly elliptical in circumference; the long diameter, which corresponded in direction with the course marked by the gunshot wound, was about five-eighths of an inch in length. It was now palpably evident that I had exposed a bony cyst containing some foreign body. With a sharp-cutting chisel I soon broke through the covering, and saw imbedded in the bone the treasure trove, a pistol ball With considerable difficulty I introduced the end of an elevator beneath the *corpus delictu*, and brought it once again to the light of day.

The ball, which I send to you for examination, weighs fifty-seven grains; and had been imbedded in the skull nearly seven years.

A period of four and a half months has elapsed since the operation, and up to this time Mr. F. has not had a return of any of his former troubles, but has continued in the enjoyment of the best health.—*Reporter.*

Gleanings.

Retained Placenta after Abortion—Dr. H. Spondly (*Lon. Med. Record*, April 15, 1876) from his personal observations concludes:

1. One cannot depend upon the placenta being always spontaneously expelled with the fœtus, and adhesions are unfrequent.
2. A retarded delivery of the placenta is always accompanied with considerable danger, especially from repeated floodings, which in the most favorable circumstances delay convalescence.
3. It is strongly to be recommended to remove the placenta with the fingers in the early stages, when the cervix is dilated sufficiently to admit at least one finger.
4. Injections of carbolic acid, diluted with warm water, should be used to remove portions of placenta which may be left in utero. These retained portions are much more frequent in ordinary abortions than with this operation.
5. Care should be taken to use no force to enter the uterus when it is closed without previous dilatation.
6. Midwifes should be instructed to send for medical help whenever the ovum is incompletely expelled, as then the uterus as a rule would be found permeable.

Torsion—Its Advantages over Ligatures in Arresting Hemorrhage.—M. Tillaux, in a lecture at a Paris Hospital (*Brit. Med. Jour.* May 20, 1876) stated that he had for five years used torsion for all arteries, large or small. He believed that torsion is applicable to all arteries, especially the larger ones. A single pair of forceps is sufficient, and not two pairs, as employed in England and elsewhere. The artery should be seized obliquely, and not longitudinally, and in such a manner that three coats, in their entire breadth, should be included in their grip. The torsion or twisting should then be practiced until the portion seized becomes detached. Torsion is applicable to atheromatous or inflamed arteries as well as to arteries in a heathy condition.

Torsion favors union by the first intention, owing to the absence of a foreign body, as in the case of ligatures. Like ligatures, torsion prevents primary hemorrhage, but it acts more effectually in prevnting secondary hemorrhage. M. Tillaux asserts that, although he has employed torsion in about a hundred cases of capital operations, he has never had a single case of primary or secondary hemorrhage.

One of the attending surgeons to the Philadelphia hospital has for many years used torsion exclusively with, on the whole, excellent success. He has devised an ingenious apparatus for twisting arteries.

Method of Bandaging the Breast.—Dr. L. A. Dugas (*Louisville Med. Jour.*, April, 1876) says that in treating mammitis or mammary abscess, he uses the following method of bandaging: A bit of cotton or linen shirting, about ten inches wide and long enough, is placed about the thorax and secured in front by digitations similar to other "many-tailed" bandages.

This is to be applied from the axilla down, passing around the chest and over the mamma, and to be tied in front of the sternum. It effectually compresses both organs, and may be removed, loosened or tightened, according to the exigencies of the case, without any difficulty whatever. If only one breast is affected, the bandage may be so split as not to cover the whole of the other. The child may be nursed through an aperture made in the bandage for the nipple. As soon as the congestion becomes painful or threatening, the bandages should be applied with such moderate tightness as will relieve pain, and it should be continued until the trouble has entirely subsided.

THE RELATIVE VALUES OF CINCHONIDIA AND QUINIA.—In our July number we had occasion to mention that the Medical Board of Bellevue Hospital, New York, had caused experiments to be instituted as to the relative merits of quinia and cinchonidia sulphates. The latter salt was used, almost exclusively, for over a month in that institution. At the last meeting of the Board, the various members on duty reported their experiences, and they seemed to be in the main tolerably agreeing with one another. The surgical members of the Board declared cinchonidia to be a valuable tonic and an anti-febrile remedy, but find it to be totally inadmissable in severe surgical injuries, especially to the genito-urinary system, and in cases of shock, where it is apt to produce emesis, and in consequence thereof, or rather in connection therewith, severe congestive symptoms. In such cases cinchonidia had to be entirely abandoned, and quinia had to be resorted to. In purely medical affections, however, as in intermittents of all stages, pneumonia, etc., it was found to act with great promptness. although not quite so rapidly as quinia, and requiring a somewhat larger dose. Whenever the tonic effects of cinchona are desired to be produced. cinchonidia can with perfect reliability be substituted for quinia, and the attention of physicians is especially directed to this fact, as it enables them to administer to patients in indigent circumstances a prompt and effective remedy at a considerably reduced expense. Hospitals and dispensaries, supported by public or private charity, will also do well to instruct their prescribing staffs to properly discriminate between cases which may be benefited by the dearer or the cheaper alkaloid. It will make a considerable difference in their annual expenditure.—*New Remedies.*

MEANS TO MAKE LEECHES TAKE IMMEDIATELY.—Place the leeches in a glass half full of cold water, and having carefully cleansed the part with hot water, apply the glass rapidly to the skin. The leeches attach themselves to the diseased part with surprising rapidity. It seems to the patient that he has received but a single bite. When all the leeches have bitten, the glass should be raised with precaution so as not to wet the patient needlessly. To do so a sponge or towel should be applied, so as to receive the water as it flows out. If the point to which the leeches are to be applied is very limited, place a sheet of strong paper, having a hole of the dimensions of the part on the glass.—*Revue de Litterature Medicale.*

TREATMENT OF ALBUMINURIA.—Dr. Hall, after the clinical use of various forms of medication in albuminuria, sums up his experience and theory for treatment in the following words: "Dr. Southey attributes the success of the employment of the tartrate of potash in Bright's disease to the abundant diuresis of alkaline urine. . . . . I am speculative enough myself to imagine that an alkaline fluid, passing through the urine tubes, has some similar action to that of weak soda or potash solutions upon sections of dead kidney-tissue under the microscope. I mean that fat granules are saponified, cells are rendered more translucent, the interstitial tissues become looser, and the circulation is thus facilitated. . . . . . As a general rule, far too little attention is paid by the medical attendant to the diet of the patient; that is to say, the directions given are vague in the extreme; but in acute albuminuria, as in typhoid fever, any indiscretion in the food may be visited with the most severe punishment; an attack of convulsions may be caused by excess, just as I have seen perforation result from taking solid food too early in typhoid fever. I would sum up the treatment of acute Bright's disease in the following words:

"1. Milk and water with arrowroot; no solid food.

"2. Mild diuretics, such as the citrate of bitartrate of potash, with a free supply of water.

"3. The skin to be kept just moist.

"4. A daily evacuation of the bowels."

IMPURE ICE.—Considering the enormous quantity of ice consumed in this country during the summer season, it is a matter of some importance that due attention should be paid to the purity of the source from which the ice is derived. We have already had reason to suspect our milk supply, and it would be as well to take warning from the outbreak of an intestinal disorder which occurred at a hotel in America (*Louisville Med. News*), and which was clearly tracted to the impure ice supplied. Mr. M'Clellan draws attention to the fact that the ice in this case was collected from a pond having a uniform depth of only two feet, and that the pond was so much contaminated by marsh mud and decomposing sawdust as to be of a black color and offensive odor. It is useless to expect water of such a character, and in such a situation, to produce pure ice, although ice taken from a *deep* river, lake, or pool, is one of the purest forms of water. It would be interesting to know what becomes of the ice derived from the many shallow ponds in the suburbs of London, which are far from being as pure as one could desire.—*The Doctor.*

PENETRATING WOUNDS OF KNEE JOINT.—Dr. A. Gayet (*Lyon Medicale —New York Med. Jour.*, July, 1876) concludes a report of eight cases of the above form of injury as follows:

1. A penetrating wound of the knee joint, when made by a pointed instrument and without complication, is not dangerous, provided it is allowed to cicatrize in an immovable position.

2. When left to itself, or improperly treated, arthritis of the most formidable character may result.

3. The dangers of arthritis are in direct proportion to the extent of the wound and the difficulties which prevent union by first intentions.

4. Complications of the bony structures render the case extremely grave, nevertheless, fractures of the patella, if complicated, do not call for amputation or resection.

5. The presence of foreign bodies, however small, determines arthritis and its consequences, and demands amputation or resection.

6. Posterior wounds would seem to be more dangerous than anterior wounds, on account of the density and number of the tissues and the presence of vessels, etc.

SQUILLS.—Dr. Th. Husemann (*Deutsche Med. Woch.—Jour. Nerv. Diseases*, April, 1876) in an eleborate article concludes:

1. The extract of squills, prepared according to the directions of the German pharmacopœia, is a very constant preparation in its action on the animal organism.

2. It effects the innervation of the heart and the cardiac muscle in a very

similar manner as do digitalan, digitalein, helleborein, antiarrin, thevetin and all those glycosides which are known as cardiac poisons.

3. The diuretic action of this extract can be explained only by the increase of blood pressure connected with its effect as a cardiac poison; it acts in no other way, and produces neither a local irritant action on the urinary passages, nor does it have an eliminant effect from irritation of the kidneys.

4. The indications and contra-indications of extract of squills as a remedy in dropsy are apparently not different from those of digitalis.

5. It does not have an expectorant effect by any eliminant action on the bronchial nervous membrane.

6. It is also not an anti-pyretic; it rather, in large or small doses, causes a constant increase of temperature.

7. The commercial scillitin, on accouut of the uncertainty of its action, which prevents an accurate judgement of the dose, cannot be recommended as a substitute for the extract.

Microscopy.

BIOLOGICAL SECTION OF INTERNATIONAL MEDICAL CONGRESS.

Reported by DR. JOHN GUITERAS.

MONDAY SEPTEMBER 4. In the absence of Professor Dalton, of New York, the chair was filled by Dr. Chaille, of New Orleans.

The reporter for the day, Christopher Johnston, M. D., Professor of Surgery in the University of Maryland, read the paper on the "Microscopy of the Blood."

The paper contained no new scientific discovery, but gave a very exhaustive analysis of the subject.

He considered first, in a general manner, the elements of the blood, the blood plasma, and the corpuscular elements. He reviewed the opinions of His, Kolliker, and others, as to their genesis, quoting a summary from Flint. He also studied the transformations of the red blood-disks, and the different forms found in the animal series.

The color of the red corpuscles he considered as a shade of crimson, for he believed that yellow or green-tinted bodies could not give the peculiar red color when in large numbers.

He did not admit the existence of a cell-wall for the red corpuscles.

A summary from Rollet was then given, about the genesis of leucocytes, and its connection with the lymph-current was demonstrated. Considering their number, the author spoke of the physiological alterations, but did not refer to those found in the so-called lymphatic diathesis. On the other hand, he mentioned Cornil's discovery of a large amount of leucocytes in the blood from the spleen of typhoid-fever patients. He also mentioned the reduction of the corpuscular element in syphilis, and its increase under the use of mercury and iodide of potassium.

The movements of the leucocytes were then studied, and their connection with inflammation. Also, the different names and functions belonging to them, dependent more upon their surroundings than upon any structural differences: if fixed within the tissues, becoming connective-tissue corpuscles; if upon the surfaces, epithelium; and if floating, pus or mucus-corpuscles.

He advised the use of high powers, and passed to consider the medico-legal aspects of the question. This portion of the report consisted mainly of an examination of the papers of Woodward, Gulliver and Richardson. This question at present rests principally on the relative sizes of the human red corpuscles and those of some of the domestic animals; though the author suggested the probability of unrecognized differences of form and cachet between these corpuscles.

He believed that the variations of sizes in the same animal were an obstacle to the legal value of these investigations. He quoted at length the measuremehts given by different authors.

The object of the paper was to deny the possibility of distinguishing human blood from that of certain animals which resembles it some. Among these are some of the domestic animals frequently used to thwart the ends of justice. He thought that Dr. Richardson, the advocate of this process for the discrimination of blood-stains, had taken too strong a ground when upon the witness-stand, but had receded somewhat in his answer to Dr. Woodward's paper.

Dr. J. G. Richardson, of Philadelphia, said that he had been misrepresented by the reporter of the trial. He had only stated that those corpuscles corresponded with those of the human blood, not that they were. At first the attempts were confined to discriminating human blood from that of the lower animals, as was done by Prof. Leidy, of this city; but better methods of investigation now justified closer distinctions, as between the blood of man and that of the musk-deer and the goat, and even the ox, pig, horse, or cat. The evidence of a trial often narrowed the question down to the blood of two animals, and it was only under these circumstances that he was able to arrive at definite conclusions. If the prisoner contends that the blood-stain in evidence is from an ox, sheep, or pig, I am able to deny it if the corpuscles correspond in dimension with the human corpuscles.

Dr. Johnston believed that the law required a positive recognition, an affirmation that the blood was human. It might be that of a guinea-pig or a dog. Dr. Woodward had shown him some of his photographs of red blood-disks, and both Dr. J. and Dr. W. had made mistakes when trying to distinguish the different specimens.

Dr. Didaman, of Syracuse, New York, denied the absolute necessity of identifying the human blood. It is sufficient that the microscopist prove the untruthfulness of the prisoner. He asked Dr. J. if he found the disks of a certain size, would he not be able to say that it was not the blood of a pig, supposing the prisoner had sworn to this effect?

Dr. Johnston said that he could not swear that way, on account of the variations in size.

Dr. Didaman quoted a remark of Dr. Richardson, from the trial, where he stated that the corpuscles found in the specimen were of such size that they could not have passed through the capillaries of the sheep. Did Dr. J. think they could?

Dr. Johnston mentioned the great elasticity of capillaries and corpuscles.

Dr. James Tyson, of Philadelphia, thought that all agreed as to the scientific facts; but that these were sufficient to satisfy some minds, and not others. He would have said that the blood in question was more likely to be that of the sheep than that of man.

Dr. Chaille, of New Orleans, thought that a relative differentiation was sufficient. He stated that Dr. Richardson had twice been able to distinguish between three specimens of blood. He wanted to know whether Dr. J. had ever tried the test. Dr. Johnston answered that he had only tried it with Dr. Woodward's photographs, and had failed.

A resolution of Dr. Didaman supporting the legal value of these investigations, elicited from Profs. L. S. Jaynes, of Richmond, and Johnston questions in regard to the condition of the blood under consideration. And they discussed the changes and shrinkage of corpuscles after drying. Dr. Richardson stated the shrinkage to be from eight to ten per cent. Dr. Tyson had once found, much to his surprise, the corpuscles to have enlarged beyond their normal size after soaking.

Dr. Jaynes opposed the resolution, as establishing a dangerous precedent. It was then withdrawn, and the paper sent to the Congress with a recommendation that it be published, but leaving the question at issue still *sub judice.*

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CENTENNIAL EXHIBITION OF MICROSCOPES.—Mr. C. A. Stodder writes us in regard to the non-exhibition of Tolles' microscopes at the Centennial Exhibition:

"Some, no doubt, will be invidious enough to insinuate that they were retained in their inaccessible sales-rooms to keep them from being inspected, *i. e*, along with the English display."—C. M. N. for October.

The non-exhibition was my own work, and not "the very bad management of friends." *Mr. Tolles never did and never will exhibit at any show.* My decision was made long before the time of entering goods. I will give you some of the reasons that influenced me, and if you think they are satisfactory, in justice to the maker and his agent I ask you to say so (giving the names) in your next issue.

First, I had no instruments made nor time to make them, and no funds to pay if I had the time.

Second, I am satisfied that no award, approval, or report of the judges that could be made, would increase my sales *half* enough to repay the expense.

Third, From my experience of what was done about microscopes at the Paris and Vienna exhibitions, I was impressed that there neither would nor could be any thorough and exhaustive tests and trials of the true merits of objectives.

I was doubtful if any competent experts would be on the board of judges. It is folly to submit such instruments to the judgment of those who have never seen and *used* the best of all the makers; and such could have no time to properly test each lens in the exhibition. Of course I am often asked to explain why Tolles' telescopes and microscopes were not there. I add extracts from letters from one of the best known microscopists in Philadelphia as proof that my views are correct:

"I was called before the judges (!!!) when lenses were being tried at the Centennial, not as a judge—that I avoided—but simply to help one who knew less than he should. * * * There has been a premeditated avoidance of experts in the matter of testing lenses at our exhibition. Opinionated and antiquated Germans who know nothing but Hartnack, and that crudely—respectable but fossilized college professors as experts—non-sense. I was proud that Mr. Tolles was not *sat* upon by the great judges. * * The whole thing was a disgrace, and all this was anticipated."

"Your views about exhibiting at the Centennial show are sound and right. You would have gained nothing. I speak knowingly when I say that the testing to be done there will be a farce and fizzle. Those on exhibition are already disgusted. Learned professors are not *therefore* experts. A man may calculate an eclipse, or blow a fog horn, but be an ass when required to differentiate between instruments of such precision as we now employ in the best biological work. You are more right than you suspected."

THE SPENCER STUDENT'S QUARTER.

Geneva, October 7, 1876.

J. A. Thacker, M. D., Cincinnati:

Dear Sir—Your favor of the third inst. is received, and as it conveys to us the first intimation of Mr. Morehouse's intention to notice our "New Student's Microscope" in your journal, we must, in mere justice to ourselves, write you something theranent. Since Mr. Morehouse saw the instrument and our "Professional Series of Objectives," we have so greatly improved the 1-4th belonging to the Student's Microscope, without increasing its cost, that his account would doubtless give a very inadequate and unintentionally defective idea of its highest and most essential power as now made. From 55° angle of aperture—that of the 1-4th which Mr. Morehouse saw—we have carried it up to 70° angle of aperture upon an entirely different formula. It will now resolve the pl. angulatum (Moller's, a somewhat more robust form than the English, as you are doubtless aware), by direct central illumination with the concave mirror; by oblique light resolves the N. Spencerii (in balsam) and the dry-mounted, Benin Lake Nav. Amicii (*rhomboides,) large, medium, and small, into lineations; and the larger frustules into dots by careful illumination. The cost of this objective, without adjustment, is twelve dollars packed in neat paper box, or fifteen dollars in brass box with a simple but entirely efficient adjustment. The one inch objective of the same instrument gives a fine definition with a very flat field.

You very kindly express the "hope that they (the Student's Microscopes) are as he (Mr. Morehouse) describes." This additional account will probably show you that they are a good deal more than he describes, and that it is of importance to us that the character of the instrument should be properly stated. Very truly, yours, Chas. A. Spencer.

Zentmayer's Exhibit at the Centennial.—We stated in our last issue that in this number of the Medical News we would give a detailed description of the Zentmayer exhibit of microscopes. We now proceed to do so.

Joseph Zentmayer, of Phiadelphia, exhibits a case of microscopes and microscopical accessories. The stands are all after the Jackson principle, of different sizes and construction, monocular and binocular. The binoculars are after Wenham, with some improvements in the mechanical arrangements. The prism is a fixture in the body of the microscope, and is not attached to the fine adjustment tube. This plan secures uniformity of field in any position of the fine adjustment. The adjustment for distance of the eyes is accomplished by rack and pinion, but the pinion is placed at right angles to the inclined tube, giving greater speed to the main draw-tube, and counteracting the difference of the direct and reflected image to same degree when the draw-tubes are extended. Most of the different stands are provided with revolving concentric glass stage, which in Europe is known as M. Natchet's stage, but of which Mr. Zentmayer is the inventor. It was introduced here fifteen years ago. It has adjusting screws for accurate centering. The exhibit is a very complete one, containing a dissecting microscope, clinical stand, which is a modification of Dr. Beal's new student microscope, U. S. army hospital microscope, a stand which was constructed expressly for the U. S. government, and the second and large microscopes. These two stands are similar to each other in form. The difference is in size, and the large one is more elaborate. The large stand is mounted on a broad tripod with revolving platform, beveled, silvered and graduated into degrees, which serves for measuring the angular aperture of objectives. The Jackson bar rests on two pillars, and carries stage body and secondary body. The mirror is attached to the bar by a joint as near as possible to the stage, to facilitate oblique illumination, and to swing in one plane with the optical axis of the instrument. One of the stands has a mechanical stage, which is greatly admired for its solidity and thinness. The strong slide for the lateral movement, which is accomplished by a sixfold screw, is placed at back of the stage, leaving the front of stage only 3-16th of an inch thick inclusive of the revolving plate at the top, which is graduated to serve as goniometer. The longitudinal motion is accomplished by a chain, and the position of the two milled heads are like Turrell's, one in front of the other.

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* Navicula Amicii, (rhomboides). This diatom was used in this country as a test object for the first time in 1855. It was sent to me by Professor Amici through Lewis M. Rutherfurd, Esq., who was then travelling in Europe. Professor Amici had just succeeded in resolving this object dry-mounted, with an immersion 1-15 of his own construction. This objective was sent to me for examination, and is doubtless now in the possession of Mr. Rutherfurd.

Whether or not this diatom had been previously named I do not know, but presume it had not, as in sending a slide of it to Professor Bailey, I proposed that he should designate it as the N. Amicii, which name he accepted. I conclude, therefore, that the cognomen rhomboides is a very questionable *alias* which should be discarded.

But the most important of the exhibit is a large stand which Mr. Zentmayer constructed expressly for the Centennial. This stand is somewhat larger than the former. Tripod with revolving base, graduated like the other; bar also mounted on two pillars. But the essential parts, in which it differs from the other are entirely novel. They are the fine adjustment, the swinging of the mirror and secondary body, and the mode of attachment of the stage. The bar is provided with two slides, the one for the rack and pinion movement, and close to it another one of the same length for the fine adjustment, moving the whole body. It is moved by a lever concealed in the bent arm of the bar, and acted on by a micrometer screw at the back of the bar. In this way the body or slide is not touched directly by working the fine adjustment, and the body does not change in length. The mirror and the secondary body swing underneath the stage around an axis of which the centre is in a line with the object. The object is also placed in a line with the optical axis of the achromatic condenser. It is perfectly steady in any position, and a strong spring indicates when it is in a line with the main body. A graduation shows the number of degrees when out of centre. Axis and bar are in one piece, and the stage is fastened to the bar by a cone and tightened by a large milled nut. It can be removed, and another little diatom stage, of Mr. Zentmayer's construction, is substituted in not more time than it takes to change an objective. This diatom stage is a small round stage. It can be centered by adjusting screws, and is extremely thin, allowing any angle of illumination; and as the stage is small the swinging mirror can be used with it as an illuminator from the top. This is a very important improvement. Another very ingenious little stand of Mr. Zentmayer's construction is his compound pocket microscope, also on the Jackson plan. It packs, including an ordinary one-fifth objective, into a strong case of the following outside dimensions: Length four and a half inches, width three inches, and hight one and a half inches. The case forms the base, and when the instrument stands perpendicular it is ten inches high including the hight of the box. No part of the instrument, not even the objective, is detached when packed, and it almost solidly fills out the little case.

Mr. Zentmayer also exhibits a very complete set of accessories, of which

I name, as originated with him, a mechanical finger for picking out and arranging diatoms. It is connected with the mechanical stage. Also an adjustable diaphragm, the aperture of which can be varied in size, and the hole remains perfectly round. This puzzle is solved by connecting two revolving cylinders by gearing and providing them with corresponding conical, tapering grooves.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

The regular meeting of the San Francisco Microscopical Society was held on Thursday evening, October 19, with a large attendance of members, and A. L. Sobey as a visitor. Presedent Ashburner was in the Chair, having returned from quite an extended tour among the microscopists over the mountains, and during the evening gave an interesting and full report of what he had seen and learned.

Under the head of "Additions to the Library," there were announced the CINCINNATI MEDICAL NEWS for September, *American Naturalist* for October, *American Journal of Microscopy* for August and September, two copies of *Flora*, six of *Nature*, and a "Monograph of the Cirrepedia," Darwin.

Mr. J. P. Moore presented the Society with two volumes of "Spencer's Biology;" and Prof. Ashburner stated that he had purchased for the Society, while East, one of Tolles' one-sixth immersion objectives, one each of Tolles' solid one-half and one-quarter inch eye-pieces, and a Wenham reflex illuminator, the latter of which was tested during the evening for oblique illumination while resolving some test diatoms, and it was satisfactorily proven that one of the greatest advantages of the accessory was its use with the ordinary thick stages, which preclude the obliquity of light necessary for tests with high powers. While speaking of this President Ashburner stated that in his interview with Prof. J. Edwards Smith, of Ashtabula, Ohio, he noted the fact that his stage was of extraordinary thinness, which was one of the apparent essentials when nothing but illumination from the mirror was used. He also took occasion to state that his *seance* with Prof. Smith was highly interesting, and that all that was promised was done. The Society's duplex one-tenth of Tolles' was used, and the Society's balsam Møller proof-plate, and Prof. Smith showed Nos. 18, 19 and 20 clear and distinct within fifteen minutes, although he admitted that the Society's glass was not equal to his.

President Ashburner has proved an apt scholar in the manipulation of the objective, and from a subsequent interview with Mr Tolles and with the tenth overhauled and refitted, he is equal to the emergency, being able to show members of the Society the lines on 18, 19 and 20 as plainly as the pickets on a fence. The new Tolles' sixth also resolves in his hands the same tests without difficulty, on a balsam plate, which is just what it represents to be.

Mr. J. P. Moore made a further statement regarding the grapevine fungus, which he had examined and reported on at a previous meeting, to the effect that the same Erysiphe he had found since on the native vines.

Mr. G. W. Barnes, of San Diego, sent a communication to the Society, accompanied with a bottle of sediment obtained from the water supplied to that city from the bed of the San Diego river, and desired a statement as to its characteristics microscopially. It was handed to Mr. Hanke, who promised a report at the next meeting.

Dr Wythe exhibited a photograph of Zentmayer's new model, and during the evening Mr. Banks filled one of the revolving tables with instruments just from the Centennial Exposition. Among them was Crouch's standard microscope, with new centring arrangement, which was most perfect; one of Wamsley's binocular stands, and a Holmes' class stand. A little scientific apparatus in the way of Crook's Radiometer attracted the wondering attention of all.

Owing to the increase of members and interest in the meetings, it has been thought for some time that a change to more commodious quarters would be of advantage, and to this end it has been decided to move on the first of the coming month to a fine suite of rooms in the new building on the south-east corner of Kearny and Sutter streets.

DUNKIRK MICROSCOPICAL SOCIETY.

A regular meeting of this Society was held at the Library Rooms, Dunkirk, on Friday evening, October 13, 1876, with the President, Dr. Geo. E. Blackham in the chair. The attendance of members was very good, it being the first meeting held since the summer vacation. Quite a number of visitors were also present.

The minutes of the preceding meeting were read and approved. The names of Miss Francena Gore and E. L. Mark, A. M., were presented for membership; also of J. Edwards Smith, of Ashtabula, Ohio, and G. W. Morehouse, of Wayland, New York, for corresponding membership.

A communication was read by the President from the Secretary of the Illinois State Society, to which the Secretary was instructed to reply. The President occupied a short time in speaking of the Buffalo meeting for the Advancement of Natural Science, and of his observations at the Philadelphia Exposition in regard to the microscopes and accessories there exhibited by the different manufacturers, remarking that he thought our own manufacturers had reason to be proud of their own instruments.

The present meeting was stated to be particularly for the purpose of arranging a suitable programme for the winter. On motion the President was authorized to confer with the different members, and make such arrangements for essays as might in his judgment seem best.

On motion a committee was appointed with authority to procure a suitable cabinet for the books and specimens belonging to the Society. A communication was read from Professor Henry, of the Smithsonian Institution, which on motion was placed on file.

An essay was presented by Dr. C. P. Alling on the preparation of microscopical objects, which was illustrated by appropriate specimens.

Discussion of the paper was participated in by the President, E. L. Mark, and others.

Dr. Blackham presented for examination a slide of Podura, and also a slide of test scales from the same.

Professor Willliam Harkins exhibited a McAllister's physician's microscope, with a Wales' 2-3d and 1-10th immersion objectives.

E. L. Mark exhibited Hartnack's new small microscope, with Nos. 2, 4, 7, and 9 object lenses.

Dr. Blackham exhibited his new inch objective of 30° angle, manufactured by Tolles.

After the examination of the various instruments and specimens presented, the Society adjourned. C. P. ALLING, Secretary.

TRANSLATIONS.

By W. A. Rothacker.

THE PATHOLOGICAL ANATOMY OF ATROPHIC PARALYSIS IN CHILDREN AND ADULTS.

The first investigations on this subject were made in France. There are two views. Charcot believes the disease to be due to an atrophy of the large motor ganglionic cells in the anterior gray horns of the spinal cord, the destruction of these cells causing muscular atrophy. This atrophy has its acute form in the paralysis of children, and in the acute spinal paralysis of adults. In progressive muscular atrophy the chronic form exists.

Damaschino believes the first charge to be an acute myelitis affecting especially the anterior gray matter of the cord. The atrophy of the ganglionic cells he considers as secondary to the myelitis.

Leyden (*Archiv. f. Psych, etc.*, *B'd* vi *H. I.*) gives a number of observations which show that in the essential paralysis of children various processes may serve as causes, their common basis being that they take place in very young children; that they are acute and effect the gray substance of the anterior horns exclusively, or at the same time that other parts of the cord are affected.

In the first case, in which the paralysis was referred to a traumatic cause, and the atrophy had existed for sixty years, the autopsy revealed circumscribed sclerosed points in the gray columns both at the cervical and lumbar enlargement of the cord. The nerve roots proceeding from these parts were diseased, and the nerve trunks were found atrophied even to the periphery, showing thickening of their capsules, and interstitial neuritis. In the muscles was found a well-marked interstitial myositis together with a watery lipomatose.

In the second case, that of a child one year old, the autopsy showed atrophy of the large ganglionic cells, most marked in the left anterior horn of the lumbar enlargement, with a co-existing atrophy of the white anterior and lateral columns. There was besides a large proliferation of the cells of the neuroglia, and it appeared as if the large increase of these cells had brought about resorption of the ganglionic cells and the nerve filaments. It appears probable that in this case there was a central myelitis, which extended not only to the gray matter of the anterior horns, but affected likewise the white columns, presenting in contrast with the first case a more diffuse process.

In the third case, that of a woman fifty-eight years of age, who had in her fourth year been suddenly paralyzed in one of the lower extremities, the autopsy showed a very extensive diffuse atrophy of the gray substance with destruction of the ganglionic cells, and development of innumerable corpora amylacea. The white columns appeared atrophied without any further alteration of structure.

In the fourth case there was a disseminated sclerosis, which probably resulted from a previous myelomeningitis.—*Viertelyahrschr. f. Prak. Heil.*, xxxiii.

THE COLD DOUCHE AND FRICTION IN THE TREATMENT OF CONSUMPTION.

Sokolowski has published (*Berliner Klin. Woch.*, No. 39 and 40) a series of articles showing the value of the cold douche with subsequent friction in the treatment of consumption. He makes a summary of the indications for their use as follows:

I. Principally in individuals who have a well-marked tendency to consumption, provided there is a good general condition with a sufficient reaction after the douche.

(*a*) Individuals born of consumptive parents who are at the age of rapid growth even though there be no appearance of the disease.

(*b*) Persons who have extreme sensitiveness of the mucous membrane of the respiratory passages, *i. e.*, who easily "take cold."

(*c*) Those who have catarrh of the apices (spitzen-catarrh).

(*d*) In cases of chronic bronchitis having no definite localization, and which are dependent on hereditary tendency.

(*e*) Anæmia from hereditary causes.

II. In patients who already have consumption the douche is indicated.

(*a*) In all cases of inflammatory (acquired) phthisis, provided there is a good constitutional condition.

(*b*) In constitutional (hereditary) phthisis, in case the destructive processes are limited, and the general condition is good.

In the winter season the douche should be used with great circumspection, and only in patients who are well nourished and strong.

NEURALGIA IN THE EARLY STAGES OF TYPHOID FEVER.

Rosenbach (*Archiv. f. Klin. Med.* xvii) gives some account of the neuralgia which is common in the first, rare in the second, week of typhoid fever. The paroxysmal nature of the pain, its situation in the track of particular nerves, (supra, infraorbital, and occipitalis magnus), the characteristic painful points in the line of these nerves and over the spinous and transverse processes of the two first cervical vertebræ; and lastly, the unilateral nature of the pain, all indicate that it is of a neuralgic character. The pain is frequently relieved at once by a vesicant.—*Centralblatt*, No. 40.

Correspondence.

CINCINNATI HOSPITAL.

JONES STATION, O., OCT. 20, 1876.

HON. M. B. HAGANS.

DEAR SIR:—A mutual friend informs me that you regard my strictures on your course as a trustees of the Cincinati Hospital more severe than the facts warrant, and that you claim to be pure, honest and independent in all the measures adopted by the board of trustees of this institution. Permit me to assure you that I am willing and ready, and always have been, to make full and complete reparation to you for any injustice, in any thing I have written, I may have done you. I do not write to you to gratify any desire for controversy, for I have none. I should be greatly pleased to believe you pure, honest and independent, as you claim, but before I can do so your acts must agree with your professions. Did you possess and practice these qualities, I should have no cause for stricture on your course, for I would have all the privileges in the Cincinnati Hospital I ever contended for or desired. Could you bring to the surface in your board these shining qualities of character, they would be the more brilliant on account of their surroundings; but this will not be possible so long as you remain a servant to the two medical cliques, each of which has its nucleus in a medical college. The schemes of these members of your board, who are the recognized representatives of these cliques, to put the hospital at the exclusive service of the clique colleges, were in many instances, as you very well know, arbitrary, vindictive, and unlawful, and would have failed had you refused to give them your support. You not only did not do this, but on the contrary you advocated and voted for them,—espoused them with that ardor and affection which is alone begotten of kindred spirits. When a member of one of these cliques, who is a member of your staff, demanded that a room should be fitted up in the hospital, at the expense of the taxpayers of the city, for the accommodation of one of his children, your board, under the pretext that this lad was to watch the inmates of an obstetrical ward, granted the request, you voting in the affirmative.

When the cliques proposed to establish a dispensary in connection with the hospital, under the pretext of prescribing for the out-door poor, but really to give position to their children, whose professional pin-feathers were yet in their pulp, your board, knowing there was no authority in the law for such an institution, and that every ward in the city had by appointment a city physician, who was paid for treating the poor by the board of health out of funds belonging to the city treasury, granted the request, and I am informed that you embraced the idea with very decided approbation. You will remember this bantling lived but a short time. Your board strangled it to prevent the humiliation which would result from having it declared a bastard in a court of justice. You will in this connection call to mind the promise from your board that all colleges should be, as contemplated by the law, equal in the hospital, and that they were so made; but soon after the accession of Dr. A. S. Dandridge to your board, partly through your influence, and the pressure produced by him and Dr. David Judkins, his co-conspirator of long ago, against Dr. M. B. Wright, your board betrayed those who had accepted its promise as a final settlement of the hospital controversy by reversing its action, and returning to its former clique service, and you, as I am informed, approved of the betrayal. Not only did you fail to keep the colleges equal in the hospital as you had promised, but you permitted, and do now permit, the college professors you have appointed on the staff from the cliques you are serving, to charge students from other colleges for their services, or to keep them out of the hospital wards, when you know that the law requires the staff to serve without compensation, and that all students, purchasing the hospital ticket, ought to receive like treatment from the staff.

You will also call to mind that all vacancies in the staff, since the appointment of Dr. A. S. Dandridge on your board, have been filled from the one or the other of these cliques; and when the vacancies did not occur sufficiently rapid to meet the clamorous demands of the cliques for places, your board compelled the occupants to vacate, as in the cases of Drs. Tate, Miller and Underhill, by the passage of insulting resolutions. This is certainly a most remarkable record for one who, like yourself, professes to have studied in a christian church the details of the "golden rule," yet in its face you claim to be pure, honest and independent. What a strange meaning does your record put on these words. Suppose the judge on the bench should proscribe you on all occasions, betray you and disregard the law, all to favor schemes for the benefit of his relatives and intimate friends, and then ask you to regard him as pure, honest and independent. Would you not denounce him for his partialities and his nepotisms, and would you not declare that for his utter disregard for the law he ought to be removed from the bench to service in the penitentiary?

Now can you define the difference between this judge on the bench and the roll you are playing in the Cincinnati Hospital? Will a pure man prostitute his official trust to benefit an arrogant clique? Will an honest man, in exercising the discretionary powers which the law has vested in him, use them to rob one institution of what rightfully belongs to it to enrich another? Have you not done this?

As a board of trustees you have done injustice not only to those you have kept out of the hospital staff who should be in it, but you have injured the good name of the clique men who, on your invitation, have usurped the rights of others. Many in the profession, indeed all who are acquainted with the facts, must concede that Dr. Mussey, who is equally honorable with any of the faculty of which he is a member, did not display a high sense of professional honor when he accepted the place on your staff which he now holds. You know, and it is fair to suppose that Dr. Mussey knew, the work of the tricksters whom you are serving to get Dr. Miller, who was faithful to the hospital and a popular teacher, but had never manifested sympathy for any medical clique, out of the staff, to make place for Dr. Mussey, who had from his youth belonged to one, and who was at the time, and is yet, a professor of surgery in the college to which you are anxious to prostitute the clinical facilities of the hospital.

The profession accords to Dr. Mussey a creditable position as a practicing surgeon, but as a teacher of surgery he must be regarded as a failure, so long as it requires the monopoly he has accepted under such peculiar circumstances to enable him to successfully compete with Drs. Dawson and Bramble, of like departments in other medical colleges. Physicians everywhere must construe this monopoly to mean that the faculty of the Miami College is lacking in inherent ability to teach, and that your board, by tricks and schemes of doubtful honesty, are trying to help it along. If Dr. Mussey has confidence in his ability, and in the ability of his colleagues as teachers, to stand an honorable competition, he should at once say to your board "We want no monopoly. Place us in the hospital on an equality of privileges with the professors of other colleges, and if we can't win the race for honor and glory, we will be content to rejoice with those who can." This would have the ring of an independent man who had confidence in himself and in his colleagues. What a contrast between the actions of such men and those who cling to a monopoly obtained by low, cunning tricks as a calf would to its mother's udder. Can Dr. M. march his surgical class through the wards of the hospital without self-reproach, when he remembers that he is enjoying a privilege which is denied to others who are his equals before the law? Your staff and your board may claim to be pure, honest, and independent, but in the face of your record your professions will be of no avail. You may in the future pursue a course of silence and attempted concealment, but your record will always place you in the position of the bird that sought to hide by thrusting its head into the sand, forgetting that there was yet one end on exhibition.

R. C. S. Reed.

Book Notices.

Chemistry: General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopeia. A Manual on the General Principles of the Science, and their applications in Medicine and Pharmacy. By John Attfield, Ph. D., F. C. S. Seventh Edition, revised from the sixth (English) edition by the author. 12 mo. pp. 668. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. 1876.

The large number of editions through which this work has passed exhibits the high appreciation in which it is held. It is the best adapted to medical students of any text-book of chemistry with which we are acquainted. The student is set to work *studying chemistry* on the very first page, and is not compelled to go over a vast number of pages before he gets at *chemistry*, upon subjects which are just as much related to natural philosophy and other departments of natural science as to chemistry.

The order of subjects is that which, in the author's opinion, best meets the requirements of medical and pharmaceutical students in Great Britain, Ireland, and America. Introductory pages are devoted to a few leading properties of the elements. A review of the facts thus unfolded affords opportunity for stating the views of philosophers respecting the manner in which these elements influence each other as components of terrestrial matter. The consideration in detail of the relations of the elementary and compound radicals follows, synthetical and analytical bearings being pointed out, and attention frequently directed to connecting or underlying truths or general principles. The chemistry of substances naturally associated in vegetables and animals is next considered. Practical toxicology, and the chemical as well as microscopical characters of morbid urine, urinary sediments, and calculi are then given. The concluding sections form a laboratory guide to the chemical and physical study of qualitative analysis. In the appendix is a long table of tests for impurities in medical preparations; also a short one of the saturating powers of acids and alkalies, designed for use in prescribing and dispensing.

THE USE AND VALUE OF ARSENIC IN THE TREATMENT OF DISEASES OF THE SKIN. By L. DUNCAN BUNKLEY, A M., M. D., Physician to the Skin Department, etc. Milt Dispensary, etc. 8vo, pp 45. New York: D. Appleton & Co. 1876.

The aim of the work is to present the subject of the therapeutical use and value of arsenic in diseases of the skin in a clear and practical manner, and to furnish the practitioner with evidence of its safety on the one hand, and its utility on the other; it is hoped that, by pointing out where it is of service, and in what disease useless, the remedy may be prescribed in a more intelligent manner than is frequently the case, and that in the end, perhaps, less arsenic may be used, because its employment may be restricted to proper cases.

Editorial.

When Dr. W. A. Hammond, during the late war, ordered that calomel, tartar emetic, and some other drugs should be omitted from the army medical supply table, quite a furor was stirred up among the physicians throughout the country, for his unjust interference with prescribing by surgeons of the army. Indignation meetings were held every where, and the act was denounced in the strongest terms by resolutions. Such a meeting was held in Cincinnati, and the resolutions passed were particularly caustic, Dr. Hammond being personally denounced in unmeasured terms, and the army surgeons called upon to resign.

Among others who took part in that indignation meeting were several of the present numbers of the staff of the Cincinnati Hospital. A number of them made speeches of the most inflammatory character.

But how is it now with those gentlemen who so bitterly denounced Dr. Hammond for interfering with the right of a physician to prescribe what he pleases to those upon whom he is in attendance? Do they still continue as chary in regard to interference? One would suppose not, as not a particle of action has been taken as regards the late interference of the board of trustees with the prescriptions of Dr. Underhill, one of the members of the staff. By their silence they admit the right of the trustees to direct what shall be prescribed and what shall not be. How demoralizing is place upon some men! A certain individual once exclaimed, "Is thy servant a dog that he should do such a thing?" and yet the time came around when he did the very thing. And the time has now come when these staff members are submitting to the very thing which, at a former time, they would have stigmatized any one as a dog for enduring.

How unreliable is humanity, how little worthy of respect is it.

Our readers will recollect that we announced in our last issue that Dr. Underhill had resigned his place on the staff because the trustees had forbidden that his prescriptions of quinine should be filled by the druggist, on account of their expensiveness, they asserting that cruder articles would answer every purpose, and were much cheaper.

Whatever an individual's "claims" for position are based upon, we hold that it is proper to mention them and criticise them, if needs be, when he has received an appointment, or is a candidate for one. It makes no difference whether the "claims" be possession of wealth, social position, political influence, religious standing, etc., it is all the same, it is quite fit to canvas them. When they become "stock in trade" they are on a level. We have but little regard for one who accepts an appointment tendered him because it is supposed he is the possessor of great piety, and who would have it appear he is persecuted when the fact is mentioned.

We made mention in our last issue of a gentleman who had been appointed to the staff of the Cincinnati Hospital in consequence of his religious standing. This gentleman, for all we know, may be willing to suffer much, even to the enduring of the loss of all things for his religion, but certainly up to the present time he shows no lack of readiness to be profited by his religion in a material way. Although in possession of considerable means and quite independent of professional income to live, yet several years ago he accepted an appointment as physician to the house of refuge of this city, paying $800 or $1000 a year, which he holds on to with an unyielding grip which knows no let go. This, as is well known, he obtained in consequence of his piety, and continues to hold it for the same reason. There is no want of young physicians equally as competent to fill the position to whom the $800 or $1000 pay would be quite a boon until their private practice would bring them a living income, while to him the amount is but a trifle, for which he has not the slightest need. But he pockets the reward for his religion, from month to month, in a manner that yields no hope to the young needy physician that he ever contemplates giving it up. His religious zeal has also secured him appointments as physician to the home of the friendless and the children's home. These probably pay no salary, but they are regarded as sinecures for the advantages they afford to a physician of extending his acquaintanceship, and for other benefits which are attached to them. Any young doctor just starting out would gladly render professional services to either one of these institutions gratuitously for the *eclat*, and for the opportunity of proving his competency to a large and good class of people. He would regard that a year's practice in them would advance him as much as ten years' practice outside of them; especially if a little paper published by one them would occasionally announce that his treatment of diphtheria was attended with wonderful success, as it has done with the present incumbent. But there is no prospect of a vacancy occurring in either one of them soon, and the needy professional man must look to some other quarters for assistance in his struggle for business where the emoluments are not given out to those only of religious standing.

The climax we considered as reached when this same gentleman was tendered the appointment, and accepted it, of a position upon the staff of the Cincinnati Hospital in consequence of his religious standing. No one knew better than himself that by every principle of right and justice it belonged to another, that his only claim was his piety, and that it was this that secured him the place. If scientific acquirements had been heeded in the appointment, and certain covenants made at Columbus kept, Professor Miles would have been the appointee. But such covenant breakers as Judkins and Hagans, being trustees, it could not be expected that any high motive would govern in making the appointment.

There is no one who admires religion more than ourself. If there were more of piety in the world, it would be a much better world. Wrong would cease to be, and man could trust his fellowman. In proportion as righteousness prevails in that proportion will we draw near to that most desirable period, the millennium. We would be the last person in the world to cast any stigma upon anyone on account of his religion; and when we say, therefore, that this one or that one has obtained a certain preferment on account of his piety, we do not wish to be understood as finding fault with his being a religious man—that does not follow by any means. Under some circumstances piety forms a proper claim: a minister of the gospel, for instance, should be a pious man, even if he be not a learned man. There are other positions for which we would regard piety a paramount qualification. We do not believe, however, that it should be the paramount one in appointing to a hospital staff; nor do we believe that a really intelligent pious physician would accept such an appointment when tendered him by clique men, when he must know that his religious standing in the community is the only reason of the tender, the clique men seeking in it their own popularity, and not the good of the institution over which they have charge. Men make wealth, social position, and political influence "stock in trade," but it is certainly prostituting religion to make it such.

PERSONAL.—Dr. T. J. Bowman is at Cane Springs, Ky.; Dr. C. S. Kerr has removed from Livermore to Denny, Pa.; Dr. F. W. Courtney should be addressed at Carencro, Pa.; Dr. J. H. Barrett has located at Foster, Ky.; Dr. Geo. W. Denny, at Doudsville, Ky.; Dr. J. H. Criswell, at Caledonia, O.; Dr. A. B. Campbell, from Belmont, Canada, to Mason, Michigan; Dr. W. A. Swimley, from Tarlton, to Springfield, O.; Dr. R. J. Burke, to Stanstead Plains, Canada; Dr. H. T. Dunbar, Concord Station, Pa.; J. E. Bennett, Hill Grove, O.

LINDSAY & BLAKISTON'S PHYSICIANS' VISITING LIST.—The edition for '77 of this admirable work is just out. As we have stated before we regard this one the best of all that are issued. It is a pocket ledger, day book, account book, memoranda, etc.; a "multum in parvo," and should be in the pocket of every physician in the country. It will save many times its cost every month in the year by affording the facility of making a charge on the spot, reminding one of engagements that would otherwise be forgotten, etc.

THE
CINCINNATI MEDICAL NEWS.

VOL. IX. No. 108. Old Series. | DECEMBER, 1876. | VOL. V. No. 12. New Series.

Original Contributions.

WHAT IS THE NATURE AND PURPOSE OF THE FEVER PROCESS IN HUMAN BODIES?

By Z. COLLINS MCELROY, M. D., One of the physicians to the Muskingum County Infirmary; Physician to the Home of the Friendless; Secretary of the Muskingum County Medical Society; Member of the Perry County Medical Society; Member of the Licking County Medical Society; Fellow of the Zanesville Academy of Medicine; Fellow of the Meigs and Mason Academy of Medicine, etc., etc.

From the Proceedings of the Muskingum County Medical Society at its session in the city of Zanesville, Ohio, October 12, 1876.

The term fever is derived from one or the other of these Latin words, viz: "Feritas," wildness; "Fervor." heat; or "Februo," I purify. In the olden time the condition of body now known as fever was called the "Burning Disease." This was the state of the public and professional mind during many centuries. As the cloud of the dark ages lifted, fevers were attentively studied; and as they presented a certain train of phenomena they were grouped in genera, orders, species, and varieties of species, until their number was, metaphorically speaking, legion. So the matter stood for another century, when nosology began to lose ground, until now it has fallen into disuse. In its place certain phenomena—with many variations—are recognized as presenting certain types of fever, as periodical, eruptive, and typhoid or continued, as the phenomena are periodical, or continued, or are accompanied by an eruption of the skin. But there is no agreement in the professional mind as to any classification of fevers. The late International Medical Congress had before it the question of the identity of, or specificity of, typho-malarial fever, and concluded that there was not evidence sufficient to establish it as a distinct disease; but that the name, or term, might be useful in designating types of fever of mixed origin and character. In the same number of a medical journal I receive, containing a very full report of the proceedings of the Congress, there is published a *Clinical Lecture* by an American Professor of Theory and Practice, devoted to establishing the specific character of typho-malarial fever; and the precise differential diagnosis between it and typhoid. A recent discussion of what is called puerperal fever, in a London Medical Society, culminated in rejecting such a name for any specific disease, it being fully established that the only feature common to such cases was, that they occur to lying-in-women. The mutual inter-convertibility of all non-eruptive fevers—including typhus—is insisted upon by Dr. Graves, of Dublin, in his recent work on fever.

I may add my conviction that there is a growing tendency in the professional mind to regard all fevers as a unity in their essential nature and purpose; and that the divisions of them in professional works may be continued as a convenience of description only.

To my own mind there is a simple division or classification of fevers which exactly corresponds with, and represents the facts in, each individual case, viz: fevers originating from external causes, and those from internal causes. Thus: Small-pox, scarlet fever, measles, etc., are due to the introduction of some material from without, as a general thing, which, whether gaseous, fluid, or solid, stores up force, which, in a living body, so modifies its processes—repair and waste of flesh—as to change, or, as I prefer to think of it, spoil the dynamic capacities of tissue, necessitating a fever process for its removal, and the reconstruction of the body—in the main—from new material—with natural, or the capacity for performing functions more or less natural—physiological.

On the other hand, I find many reasons for concluding that intermittent and remittent, as well as typhoid types of fever, owe their existence to causes originating inside of the body, as in so-called hectic fever, or septicæmia, etc. These causes are changes in nutrition, sometimes due to cosmic influences beyond our control. Others to causes which may be prevented, or over which human beings have more or less control. I do not feel confident that the eruptive fevers, so-called, are always due to contagion—man to man contact—or external causes Epidemics of scarlet fever, measles, etc., are not satisfactorily explained by contagion. But the conclusion that they are sometimes due to cosmic influences, and therefore beyond control, satisfactorily accounts for all the facts of epidemics. This, I think, disposes effectually of the specificity supposed to belong to them. They originate *de novo*. And if epidemics are so, why not sporadic cases?

Thus much for causes, I may pass over phenomena or symptoms common to all fevers, or peculiar to the several recognized types, and consider at once the nature and purpose of a fever process of any type.

It seems to me that the probability of any fever process being due to chance, or accident, and not to an adequate cause, may be safely left out of consideration, seeing that throughout nature inorganic and organic law and order reigns supreme. Human beings are closely connected with external nature. And when large numbers of living beings or things sicken simultaneously over large expanses of territory, as the epizootic of horses in 1872, I prefer to think of the cosmic influences at work, as a sickening of the earth itself, when a portion, greater or less, of the life on its surface will sicken in consequence, whether human or inferior, or both.

The necessity for a fever process is ordinarily announced by changed functions; particularly by loss of dynamic capacities—as moving about, work mental and physical, changed mental characteristics, the demand for food—new material much decreased or entirely gone, while natural evacuations may be largely increased, modified, or altogether suspended.

Why is a fever process set up in such a condition of body? That I think can be understood with a tolerable approach to exactness. The structures of a living body have no permanence. Life phenomena are dependent on the decay of the structures themselves. The correlative of natural or physiological decay is function, *i..e.*, the various phenomena of life, dynamical, sensory, emotional, intellectual, and thermal. A modified structure will still decay, but in place of the correlative being physiological function, it is heat. The changed structures do not, in the act of decay, provide for their own reproduction from new material. There is, therefore, little or none of the order of physiological life decay. Hence, the variable speed, and therefore variable temperature, of the decay of structures unfit for the purposes of life. In a word, when the structures have, by any causes, external, internal, or cosmical, become unfit for the purposes of life, the living being has but one of two alterations, viz: the removal by a fever process of the changed or modified tissues, or death of the whole individual. Destructive metamorphosis, or per-oxidation, or decay by the fever process, takes place in the shadows of the border land between physiological decay and ordinary putrefaction. Just beyond these limits the decay of structure is known as erysipelas. Mortification or moist gangrene, does not differ to any considerable degree, though somewhat in mode, from ordinary putrefaction. The waste of living structure by a fever process carries with it a possibility of reconstruction from new material, with natural forms of structure, and, therefore, natural physiological capacities for function. That by so-called erysipelas and moist gangrene, is hopelessly lost, never to be reproduced. I have long been impressed with the gravity of the consequences of missing a fever process when one has become necessary by changes of structure from whatever cause, which, it seems to me, is the source of much, if not all, so-called chronic disease, which is not amenable to remedial proceedings, and not the result of time or age. I often meet with persons suffering from what are called functional derangements, who would, it appears to me, get well, if a fever process were set up in their bodies, and guided through by intelligent professional aid, till the changed structures were wasted, and partially, or wholly, reconstructed from new material, which would have more or less natural functional capacities—that is, recover their natural health.

What are the so-called counter-irritants and alteratives, emetics, purgatives, etc., but art imitations, in their actual operation and results, of nature's proceedings in a fever process? Do they hurry up waste of structure? Do they do any thing else? Certainly not, however much the real effects they produce may be concealed by misleading names. Every practitioner, of a few years standing, can recall cases of so-called chronic disease, which got well during a fever process; or at least—speaking in the ordinary way—the chronic disease did not return when the fever process had completed its course. The necessity, that is, the pathology of a fever process, includes, so to speak, the loss of the natural structural arrangement of tissue as shall impair, seriously, functional capacity. Or, as I prefer to think of it, "spoiled tissue;" tissue spoiled for the purposes of healthy life. For, without this previous alteration of the structural condition, there can be no loss of functional power, and, therefore, no pathological condition.

A living body struck by lightning, so to speak, is found dead in a moment after the stroke, died instantly it may be. Why and how? Only in one way. The forms of structure on which life depends have been changed by the velocity and mode of motion communicated by the electric force. This change in the natural molecular arrangement of the material of structure may be too subtile to be detected by either the naked or the microscopically assisted eye. But that such changes have occurred is fully attested by the sudden cessation of function. The effects of such instantaneous changes are observed in photography, were light, striking a plate covered with a thin film of collodion, upon which has been spread a solution of silver nitrate, makes it possible, by further chemical manipulation, to develope an image of the objects from which the light was reflected. What has occurred to the silver nitrate? Decomposed, chemically, and therefore structurally changed; for if it were not so no image could be brought out by further chemical proceedings by the artist.

It seems to me not unlikely that the necessity for a fever process in a living body is not unfrequently brought about almost as suddenly as death by the lightning's flash, by emotions, impressions, or falls, or railroad accedents, etc., where there have been no traces of violence visible after the most careful scrutiny by competent observers. The effects of such suddenly brought about molecular changes in structure are known in medicine as "shock." On the other hand, it seems to me equally certain that the bulk of cases have a much slower origin, sometimes spread over many days, weeks, months, or it may be years. But however tardy the action of any cause, there comes a time when the alternative is presented of fever process or death.

It does not seem possible that any attentive student of human life should fail to get a more or less accurate understanding of why a fever process is set up in a living body; and it is worth while not to forget that dead bodies never have a fever, whose tissues have been more or less spoiled for life's purposes, by causes acting suddenly or more slowly. Living flesh has little stability, and particularly living flesh capable of performing a function. Remember it must decay, and the decay of structure with natural functional capacity gives rise to that exuberance of "animal spirits," as it is called, which is, so to speak, worked off by physical exercise, whether expended in useful industry or in mischief—particularly noticed in the young. Age is another name for changed structures, whose decay exhibits that gravity which is so becoming and dignified as the end is neared. If the changed structures perform no function, continue to grow, and have no perceptible decay, they constitute neoplasms, or tumors, or other morbid growths. If any of these decay, their functional correlative is heat; and as they cannot, and do not, provide for their own reproduction from new material, they are said to be "absorbed," or "resolved." But decay is not the ordinary course of neoplasmic growths. Growth and stability is their habit, not decay, except by the suppurative process.

And that marks out a tolerably distinct line of separation between neoplasms and spoiled tissue unfit for the purposes of natural life, but yet possible to decay by the fever process, and not be reproduced from new material. Spoiled tissue, which can undergo the process of decay in the border-land of natural life, is "consumed," "burnt up," and the body is "purified" by the Februo. Not so with neoplasmic growths. If they decay it is by suppurative or gangrenous processes. They perform no useful function, and do not reproduce themselves from new material, though separate germs or cells introduced into living bodies may, in virtue of the force stored up in them, so modify the acts of nutrition as to reproduce their like. They are parasites, not independent organisms. The means by which the structures are reproduced in health, and during and after a fever process, are the same. What are they? There is but one way, and that is in the same manner that all other forms of life are multipled and perpetuated in both animal and vegetable realms of nature The structures themselves, in the acts of functional decay, store up the force in the requisite material for their own reproduction from new material. This special material it is the function of the complicated and elaborate lymphatic system in the human body to separate from the debris of the structures, and restore to the blood-stream to be united with the new material at a suitable place and time. That suitable place, and the only suitable place, and at the only proper time, is just where and when the contents of the thoracic ducts pour their contents into the blood current. If the lymphatic system has escaped the damage to tissues elsewhere, and the tissues themselves have not lost the capacity to provide for their own renewal, it may supply the needful force, in the requisite material, to unite with the requisite new material, and thus reconstruct the wasting structures with natural life powers. If the structures by damage—spoiling too far for self recovery—and the lymphatic system have shared the same fate, the body lingers a longer or shorter time and dies.

When a death occurs during the fever process, the judgment of the profession, and the people who have been taught by the profession, is that the fever caused the death. That Mr. Smith died of typhoid fever, and Mrs. Jones' child died of measles. Is that judgment correct? It seems to me not. As well might a man who has made every effort to rescue a body from death by drowning, and failed, be charged with the death. The mischief to structure, which is the real cause of death in fatal cases, ante-dates the fever process. The fever process is nature's last and supreme effort to save life.

Medical text books and oral instruction in early life taught me that the fever process was the work of an enemy. And that opinion was held a good many—far too many—years. Arriving at a conclusion exactly the reverse of my early educational training was a very slow process. It was not one great fact, but a great many facts, small and great, that now compel me to look at the fever process as the work of a friend to life, and always in the interest of life; and this conclusion, with the full knowledge that a large number of human beings die during the progress of a fever. But the spoiled tissue behind, and constituting the necessity for a fever process, is the real cause of death. Our saying that Mr. Smith died of typhoid fever is like our saying that the sun rises in the morning and sets at night—a convenient fiction to express an apparent fact. The fever process, no matter of what type, is the supreme struggle for life, to remove, by the slow and safe process of oxidation (burning), tissues which have lost life properties.

Such a process, in so complicated an apparatus as a living human body, cannot be expected to take place evenly in all tissues and viscuses, for the very simple and satisfactory reason that the spoliation has not been so. The points of most rapid waste are now regarded as foci of the inflammatory process, whatever that may be. At all events, no matter what they are called, they are points where the tissues have been rendered more fully unfit for life's purposes than at others, and, therefore, more rapidly undergo the process of burning up—oxidation—or the februo—purifying.

Of the tissues existing at the commencement of a fever process, in any given body, the bulk, in so-called grave or severe cases, will disappear before complete convalescence is established. The length or duration and apparent severity of a fever process will exactly correspond with the amount, structure, or tissue to be removed by the burning process This will be the case provided the sufferer is surrounded by conditions favorable to life, and over which man has control. Some conditions unfavorable to life are not under man's control. Thus, high temperatures in July and August, annually, in our position on the globe, are unfavorable to life, and always bring up the death rate, more noticeable among the young. A sudden cold snap in later November and December is also sure to bring up the death rate, but more conspicuous at the other extreme of life. Remedial management has something to do with it in these respects. The fever process being interrupted by therapeutic agencies before its purpose is accomplished, is very generally followed by relapses, until the purpose is completed. In some cases this relapse has peculiar features or symptoms, and is then called relapsing fever.

Or, the sufferer may have an imperfect fever process, and, as a result, an imperfect recovery; some modified tissue, capable of, and performing modified functions, will remain. The condition is then called chronic disease—or, organic disease—of whatever structure, or viscus, which happens to have been modified, and not wasted and reconstructed again with natural capacities for the purposes of life.

All the facts concerned in the causation of fever; the symptoms, the type, the remedial management, and finally the post mortem condition of structure after fatal cases, are all harmonised when the fever process is regarded as in the interest of life, and not the work of an enemy and in the interest of death.

The conclusions to which the foregoing discussion lead may be stated as follows:

1. That the fever process, irrespective of type or cause, is a unity, varying only in mode and speed of the process of oxidation, or waste of tissue.
2. That it never occurs in any living body without adequate cause.
3. That the cause is always a modification of the dynamic capacities—life properties—of the tissues.
4. That the cause may be the introduction of some material from without into the body, solid, fluid, or gaseous, storing up a mode of force capable of changing or modifying the processes of nutrition and waste, and of the life capacities of existing tissues.
5. That it is always nature's supreme effort to save life and prevent the modification of tissues constituting chronic disease, or organic disease, so-called.

THE DISCUSSION OF THE PAPER IN THE SOCIETY.

The session was largely attended, and the paper was very generally discussed, receiving many commendations.

Dr. Ball made, perhaps, the gravest objections to the doctrines of the paper. His remarks, and Dr. McElroy's reply, are therefore apppended.

The remainder of the discussion, though very interesting, would occupy too much space to be presented in connection with the paper.

Dr. Ball said that the paper claimed for all fevers a unity of nature and purpose. If the author means that all fevers have an elevation of temperature, he would agree with him. If he means that there is an increased rate of blood circulation, common to them all, he would agree with him in that too. Conceding these, and perhaps some other features present in all fevers, there was to his mind something essertially distinct between an ague and small pox. If, as the author claims, they are always in the interest of life, they would require no treatment. If the fever process is in the interest of health, then, it seemed to him, the more of it any patient had the better for him. Such are some of the impressions made on his mind by the paper. Probably not such as the author intended, but what has actually occurred.

Dr. McElroy said that Dr. Ball was right in supposing that such impressions were not those he designed to make on the members present. Dr. Ball's remarks reminded him of an incident on an Ohio river steamer some years ago. Among the passengers there were a number of Methodist clergymen, returning from conference, and a Universalist preacher. Two of the Methodist ministers concluded they would have a chat with the Universalist. In the course of their conversation one of the Methodist clergymen said to the Universalist: "If your doctrine be true, that all men shall be saved, what is the use of preaching it to the people? For, no matter what sort of lives they live here on earth, they will all reach heaven at last." "Do I understand you to ask," said the Universalist, "what is the use my preaching Universalist doctrine, seeing that all men will be ultimably saved?" "Yes sir," was the reply. "I preach Universalist doctrine to my fellow beings because it is true; and because its tendency is to induce men to lead better lives on earth," exclaimed the Universalist.

That, Mr. President is about my position. I am trying to teach you that there is a unity of nature and purpose in all fevers, irrespective of type or cause. I do so because I am as sure I am right as I am of my existence. The materials concerned, and the force which gives motion to the materials, are the same in all fevers. But different modes of the same force operating in the same body gives rise to differences in external appearances. And therein lies the difference between an ague and small-pox. The cause is different, and therefore the mode of motion, and therefore external appearances.

The President has on his feet a pair of leather boots, and very probably a leather wallet in his pocket. They have different functions to perform, and therefore have different external forms. In the two articles the materials are the same, and the physical motion or motions which converted leather into boots, would never convert another part of the leather into a pocket wallet. Between the two articles there is nothing to mark essential differences. So also in regard to the carpet covering the floor and the cloth of Dr. Ball's coat. Both are of the same material, but the modes of motion of materials which converted wool into a carpet and a coat were not the same in mode, and therefore the differences in results. There is no essential difference between bone and brain matter. Both contain the same materials, but the proportions of the elementary parts composing them are different. And the modes of motion which converts blood into bone and blood into brain matter are different, and hence the differences between products. Dr. McElroy said he was not concerned about consequences. If a wider and truer conception of the nature and purpose of the fever process in human bodies interfered with present conceptions of the professional management of fever, he could not help it. He was sure that in early professional life he was like the woman who had had four husbands, three living, and she a grass widow. Her conclusion was that "she had been too much married." So it was with him in regard to the treatment of fevers; he was now satisfied that while he regarded the fever process as the work of an enemy to life he had "treated it too much." He could not say any thing in regard to others, but that much he would confess in regard to himself. Since he had come to understand the nature and purpose of fever, he no longer "pickled" his patients in "whisky." In studying the progress of a fever process in any patient, he felt he had a higher duty to perform than in trying to cure them with drugs and medicines.

For his part he could see the same necessity for the professional supervision of a fever process as there was for the services of an engineer on a locomotive. If once started the locomotive would go without an engineer. But safety to passengers and freight required skillful professional management on the part of the engineer. Dr. Ball's horse would haul his carriage without being driven; but would hardly carry the doctor when and where he wanted to go as safely as if he held the lines and guided the horse. So it was with Dr. McElroy, it seemed to him that as the fever process was the work of a friend, it was more imperatively necessary than ever to have it under wise professional supervision and guidance.

He felt equally certain in regard to another thing, viz: that it was of the highest possible importance to both physicians and fever patients that each should know the truth.

PUERPERAL SEPTICÆMIA, INCLUDING A REPORT OF TWO CASES.

By J. W. UNDERHILL, M. D., Lecturer on Medical Jurisprudence Cincinnati College of Medicine and Surgery.

Read before the Academy of Medicine, Cincinnati, Ohio.
(Concluded from p. 606.)

Having considered, as far as possible in the present state of our knowledge, the modes of ingress of the poison into the blood, and its occasional origin within the system, we will next inquire into the *nature* of the element or elements producing such disorganization of the sanguineous circulation. So far but partial success has attended investigation in this direction. Of course the toxæmia is not an effect of the absorption of pus, since, as is very well known, it has been demonstrated that pus-globules cannot penetrate into the circulation except in very limited numbers and under peculiar clinical conditions. It must be admitted though that some of the elements of pus are much more readily absorbed than the globules themselves. Besides, it occurs at a period anterior to that at which pus is formed. Researches seem to prove that one of the toxic principles is an element entering into the chemical composition of pus, and it is claimed by Bergmann that he has isolated such element, before unknown, which has been denominated by him *sepsin.* Others have experimented with this principle and found it to be non-volatile, and exceedingly diffusible—communicating toxic properties to liquids separated from it only by animal membranes—thus showing that it passes readily through them.

By Hemmer it is claimed that the toxic principle (or at least one of them) is a body albumenoid in its nature, and his conclusions are supported by those of Schweninger, both believing that it exerts an action upon the albumenoid substances of the blood-plasma. Bergmann holds a different view, believing it not an albumenoid body, but a diffusible poison formed by the decomposition of albumenoid bodies.

Hueter, as quoted by Winckel in his work on "Child-Bed," says septicæmia is produced by infection by means of chemical putrid poisons, whereas diphtheritic affections are said to be attributable to the presence of bacteria.

Zuelzer and Sonnenschein have detected in putrid animal matter a poison which, like those already named, is a fixed body. They found that its effects upon the animal economy were characterized by many of the symptoms observed in septicæmia, especially the paralysis of the intestinal muscles, and the increased frequency of the cardiac action.

According to a note in the *Popular Science Monthly*, for September of the present year, very recent experiments of M. Feltz, have led him to conclusions somewhat at variance with those of Bergmann. In reference to the toxic principle he concludes, from his investigations, that, "as exposure to a vacuum and desiccation did not remove the toxic agent, it cannot be a gas, that activity within it is not necessary for its septic effect, and that the development of bacteria, etc., in the blood of the animals injected, points to the germs of those bacteria as being the probable efficient means of the production of the poisonous effects."

The injection of sepsin into the circulation of animals produces fever and various organic changes, such as ecchymoses in the pleura and heart, tumescence of Peyer's patches, swelling of the intestinal mucous membrane, changes in the spleen and other appearances *similar* to those observed after death from septicæmia. The pleura does not become inflamed, and from the fact that there are no secondary abscesses in the lungs, it is inferred that the poison passes freely through the capillaries of these organs. The post-mortem changes observed at the autopsies of animals which have died from the effects of the injected sepsin, although similar to the morbid appearances observed in women who have died of septicæmia, are yet not identical, and are sufficiently distinct to put us on our guard and make us cautious about admitting as truth the claim that the toxæmia is produced by a chemical virus. Although it is quite clear that sepsin is in reality a prominent toxic element of septicæmia, yet it is equally clear that there is more than one agent possessing similar powers.

It has been found that in this disease there is a remarkable increase in the number of the white corpuscles of the blood. Their identity with pus-globules was first demonstrated by Cohnheim as long ago as 1866, or rather he, and others since, have shown that if not identical, they are at least not to be distinguished from each other. An abundance of these leucocytes, a term now used to include both the white corpuscles and pus-globules, may exist, and yet there be no septicæmia, a fact which shows that the morbid phenomena of the malady are not due to a superabundance of these bodies.

The microscope has discovered in septicæmic blood animal germs called *bacteria*, which are said to be constant. But it has been shown by repeated experiment that the toxic principle probably does not reside in them, for when they are introduced into the circulation alone they effect no injurious results. Or if it does exist in them, it is not released from them, or remains in such combination as to be entirely innocuous. And this remark will apply with similar force in regard to the superabundance of leucocytes already mentioned. The fact that bacteria exist in the blood of septicæmic patients has been seized upon by an eminent writer upon the subject as a point of distinction from pyæmia. It may be well doubted, however, whether this is a point of much diagnostic value, since it is not certain that bacteria are uniformly absent in pyæmia, or even uniformly present in septicæmia.

These infusoria seem to be developed, in most cases at least, from germs already existing in the tissues, and are not necessarily introduced *ab extra* as has been thought by some observers. It is probable, too, that bacteria are sometimes the result of changes accomplished within the blood, as in cases where the septicæmia is auto-genetic. It has been shown by recent investigations that these parasites "may either penetrate the pus-corpuscles and with them enter into the circulation, or they may force their way directly into the blood." By the circulation they are carried of course to all parts of the body, but the statement of Winckel, to the effect that they excite an inflammatory process in the organs through which they pass is diametrically opposed to the results obtained by the experiments of Bergmann and others who have found that when bacteria alone are introduced into the blood they are entirely harmless.

It has been demonstrated, too, by experiments with fragments of animal tissue placed in water, that the bacteria, when developed, are not in the least affected by carbolic acid or other antiseptics, unless used in sufficient quantity or concentration to coagulate the tissues. This is certainly an important point to be remembered in the treatment of putrid infection of the blood.

Dr. Peaslee well says that the "bacteria of septic blood are not a causative agency in the production of septicæmia," and in this view he is in conformity with the opinions of the best observers who have given attention to the subject. He states further, in a discussion of this topic, that no natural element of the blood can cause the disease without having been previously decomposed. Aitken says in this connection: "the exact chemical change in the condition of the blood has not been made out."

After all that has been said, it will appear very probable that there are toxic principles in both septicæmia and pyæmia which have not yet been isolated. For a time it was believed by many that a single poison always gave rise to septicæmia and another that produced pyæmia. Others held that instead of there being a duality of poisons similar to each other, though not identical, there was but one poison, and the differences in the two affections resulted from the operation of that poison in diverse conditions. That *vexata quæstio* may now in the light of recent scientific research be considered definitely solved. For, as has already been shown, not only one, but various toxic elements, acting as factors in the causation of septicæmic symptoms, have been isolated from decomposing animal matter. The putrid poisons are multiple, and are probably developed, each according to the degree of decomposition the putrescent animal mattter may have undergone.

As has been before stated, septicæmia, whether puerperal or not, almost always arises in traumatic lesions. These, of course, occur in every labor, and they constitute conditions favorable to the development of blood poisoning. The placental disc is thought by many to be a dangerous focus for the origin of the poison. A little reflection will convince us that but very slight danger need be apprehended from this source, for the normal contraction of the uterus after delivery protects the placental site by expelling the thrombi from the uterine sinuses, and it is therefore seldom that the infection is derived from the surface. Most frequently the source of the infection exists in the lesions of the uterine neck or os tincæ, and sometimes it may be found in the vagina or at the vulva. For example, Dr. Ingham, of Philadelphia, has reported a case in which there was an ulcer at the *fourchette*, from which septic poison was absorbed, and numerous instances have been recorded by others in which apparently slight local lesions have become the *fons et origo* of the malady. A ruptured perineum, or an excoration or fissure in the mucous lining of the orificium vagina has been known to admit the infecting principle. And the general statement may here be made that the disease has its origin most frequently in some part of the uterus or vagina.

Decomposition of retained pieces of placenta, portions of the membranes, blood-clots, and the retention of dead tissues in general, all may become sources of infection. Fordyce Barker, in his admirable volume on "The Puerperal Diseases," cites two cases occurring under his own observation in which putrid fever resulted from the presence in the womb of a dead fœtus, and in both these instances the membranes had not been broken prior to the development of the disease, thereby showing conclusively that the access of air is not essential to decomposition of the retained fœtus. A case of undoubted septicæmia has also been reported by J. Braxton Hicks, originating in the retention within the uterine cavity of a putrid child. It is an old notion that a fœtus held in the womb after its death cannot undergo putrescent changes so long as the membranes remain intact; and though it has been repeatedly exploded by the experience of numerous obstetricians, yet it is as often revived, although, as I suspect, mostly upon theoretical grounds.

It is undoubtedly true that the infection may, in certain cases, be communicated by the hand of the physician recently making an autopsy, or dressing a gangrenous wound, the avenues for the entrance of the poison consisting in excoriations or erosions of the vaginal portion of the uterus or some local lesion such as has already been named. If it be true, as seems probable from the researches of Lieven, that excoriations of the mucous membrane of the portion of the uterus contained within the vagina exist in so large a proportion as four-fifths of all pregnancies, it is therefore possible to infect a woman through such lesions even before her accouchement.

From the prominence that I have in certain paragraphs of this article given to traumatism as the avenue through which septic matter may be introduced into the circulation, I may be pardoned if I repeat that this is not the only channel—although by far the most frequent—through which the poison finds its way into the system. It may, as recent researches seem to prove, even be absorbed through the intact mucous membrane of the vaginal canal which, in the later months of utero-gestation, is peculiarly fitted for its passage. Rarely, as has before been stated, it is autogenous, metamorphoses in the febrile state, according to Aitken, establishing a source of blood-poisoning. But every case in which no traumatism is found must not be set as down auto-infected, for the lesion may exist and yet escape detection.

The essence of septicæmia resides in the intense fever with which it is usually accompanied, and many theories have been put forward to account for the high temperature. The most plausible hypothesis urged in explanation attributes the high and persistent febrile action chiefly, if not exclusively, to the rapid chemical combinations involving the molecular metamorphoses of the blood and tissues. These may be so great as to cause death within a few hours, or so slight as to excite only a mild fever for a few days. Hence there may be established two grades of the affection: septicæmia simplex and septicæmia virulens, the distinction between the two being due to the amount and malignancy of the septic matter.

It has been shown by experiment upon animals that a single injection of purulent serum will cause a temporary rise of the temperature in proportion to its amount and concentration. If the injections be repeated with sufficient frequency, if their volume be sufficiently augmented, or if the injected elements be greatly concentrated, the blood will be so altered as to become incompatible with life. It has been found that when putrid pus is injected it gives rise to a septicæmia of the most violent type, the poison formed by the putrefaction of pus being much more powerful than that of other fluids. In the putrid form it acts like putrid fluids, and possesses intense pyrogenous properties, producing not pyæmia but malignant septicæmia.

Septicæmia may, of course, take place in connection with premature parturition as well as after labor occurring at the normal time. And indeed, as has before been intimated, it is possible for it to be developed prior even to the termination of pregnancy, but its occurrence in this state would be very likely to hasten or determine the expulsion of the uterine contents.

Traumatic fever is indeed but a mild form of septicæmia, although traumatism, as has before been stated, is not a necessary antecedent of the latter. Puerperal septicæmia, existing pure and uncomplicated, constitutes in reality that form of so-called puerperal fever in which death supervenes, often with rapidity, leaving no trace of inflammation of the uterus or the serous membranes. Rarely does it exist in its typical form, but most generally in union with some of the puerperal phlegmasiæ.

Formerly the term ichorrhœmia proposed by Virchow, was used to express the conditions we are considering, but septicæmia is at present the designation generally employed, and is certainly preferable, as it expresses them with much more exactness.

Not long since it was the fashion with some physicians to diagnosticate frequent cases of puerperal septicæmia, and even yet this is an affection of suspicious frequency in the practice of certain members of the profession. Fashions exist in medicine as elsewhere. But we are of late growing shy and are inclined to examine more critically the reports of alleged cases. The intelligent conservatism of the profession will not long allow "the medical pendulum" to vibrate too far either way, neither upon this nor any other question. Still, with all obtainable knowledge upon the subject, there are occasional cases where skillful diagnosticians may be at fault. It may be mistaken for cerebral disease, for typhus, or even for typhoid fever; and sometimes it may not be easy to distinguish it from peritonitis or metastatic abscess. The symptoms indeed present nothing which is peculiar to the puerperal state. It differs in degree not in kind from ordinary surgical septicæmia. Its prognosis is more unfavorable than that of the latter variety, on account of the hyperinosis of the blood in the parturient woman. Thrombosis in consequence of the excess of fibrin in the blood not infrequently occurs. Added to this danger are others of a serious character, including the liability to peritoneal inflammation, the changes involved in the establishment of lactation and uterine involution, all of which combine to make an attack of septicæmia at this period exceedingly dangerous.

I would reject from pure septicæmia every case in which secondary abscesses are demonstrated, such being properly cases of pyæmia, although I admit that many of these are complicated by septicæmia. So, too, would I exclude milk fever, which Thomas, D'Espine, Grunewaldt, and Winckel seem to regard as a true septicæmia of a mild form.

Before we had learned to isolate this affection it was usually classed with so-called puerperal fever, and indeed, it is *a* puerperal fever, or rather it is one variety of puerperal fever, this being a comprehensive term embracing a variety of affections. On the other hand, a few have argued that septicæmia is a term which embraces in its signification *all* puerperal fevers, a proposition which it is scarcely necessary to add is at variance with the views announced in this article. The opinions here promulgated are also diametrically opposed to those of Dr. George Hunter and Dr. Smart, who, in a discussion of this subject at a meeting of the "Medico-Chirurgical Society of Edinburgh," July 5th of the present year, (1876,) maintain the identity of puerperal fever and septicæmia, believing them to be, in Dr. Hunter's words, "one and the same disease." I may remark, in passing, that I dislike the term "puerperal fever," believing as I do that it is but a name to conceal our ignorance, and that the time *will* come when our knowledge will be so exact that this *omnibus* expression will no longer be employed. However, until the various conditions embraced within its title are satisfactorily classified in a correct nomenclature, it will remain a convenient term, and with this explanatory protest it is used.

When we come to examine the past reports of cases of puerperal fever published from time to time, we find many that, in the present state of our knowledge, we recognize now as puerperal septicæmia. Thus among the eighty-nine cases of child-bed diseases reported by J. Braxton Hicks in the "London Obstetrical Transactions" for 1870, we find that three are probable, and two others undoubted cases of septicæmia, and yet t. e word "septicæmia" does not occur in the whole report. Many of his cases are given with insufficient detail from which to form a definite conception of their character, and in but two or three is it noted whether albumen was found in the urine—a point certainly of sufficient importance to have been noted in every case.

And again, a careful reading of the report of two cases of puerperal fever by Dr. Snow Beck in the same "Transactions for 1865," will convince an unbiased mind that they were what is now called septicæmia. A further reference to similar reports is attended with similar results, and I presume that almost any medical gentleman long in practice who, in the light of our present knowledge upon this subject, reviews candidly his cases of puerperal fever, will readily call to mind many which he is now satisfied were truly septicæmic. Cases of true scarlet fever occurring in the puerperal woman have even been mistaken for septicæmia, and *vice versa.* Professor Olshausen has very recently written an exhaustive contribution upon the subject of "Puerperal Scarlatina," in which he alludes clearly to the appearances which at times may render the differential diagnosis difficult. As bearing upon this point we will quote Mayr, who says that "the so-called puerperal scarlet fever has nothing in common with the true scarlet fever except the color;" and that scarlatina occurring in connection with the parturient state is indeed "not often true scarlatina, but an inflammation of the skin" resembling it. "The scarlatinal rash in such cases is probably developed from a putrid infection of the genital organs in parturient or puerperal women."

Helm and Kiwisch held a like view, believing that the scarlet efflorescence, sudamina, and other appearances on the skin, are not evidences of scarlatina, but are local manifestations of blood-poisoning induced by absorption of septic matter from the genitalia in the puerperal or parturient state Professor Olshausen vigorously contests this opinion, which it may be said is indeed too sweeping to be admitted as uniformly true.

Upon the other hand, we find that since this disorder has been recognized as one separate from other affections similar, there has been a tendency in certain quarters to multiply its frequency. Thus in the *Obstetrical Journal* of Great Britain and Ireland, Vol. i, there are several cases reported at length by Dr. T. Morton, some of which, according to my view, are certainly not septicæmia. Again, in the April number of that journal for the present year, are reported six cases by Dr. Hugh Miller, of the Glasgow Maternity Hospital, none of which I can consistently admit as typical examples of the disease. The first of Dr. Miller's cases seems to have been a mild form of the affection, the second not septicæmia at all, but peritonitis, the third and fourth doubtful, and the last two so meagerly reported that no judgment can be formed as to the correctness of the diagnosis.

Dr. Wilshire and Dr. Henry Gervis, of the "London Obstetrical Society," have each during the present year reported to that Society a case of puerperal septicæmia. Both cases were attended by multiple abscesses, and such other evidences of pyæmia as to place them clearly beyond the category of septicæmia. The same may be said of Dr. Hunter's cases, which he reports in confirmation of his peculiar views, to which brief reference has already been made. They, too, are nearly all pyæmic, and not septicæmic. Indeed, the medical profession of Britain do not, *as a body*, seem to make a clear distinction between puerperal septicæmia and pyæmia—a distinction which appears to be properly recognized by the profession in Germany, France, and America.

The list of probable errors in the diagnosis of this disorder is augmented by further reference to published reports of cases. But after all there may, perhaps, be no greater laxity in the recognition of this than in the determining of many other diseases, and equally as many mistakes are probably made in the diagnosis of typhoid fever, for instance, as in that of septicæmia.

The question of contagion is an important one requiring our notice, but unfortunately it is still *sub judice.* Semmelweis and Hirsch give a qualified opinion in the negative, while Virchow emphatically affirms the doctrine of its contagion. In my own experience I have never known the disease to be transmitted. Upon recurring to my visiting list I find that while treating the second case reported in this paper, I attended two cases of obstretrics. After having made a digital examination for clots in the vagina of my septicæmic patient, I attended the same night a case of accouchement. I well recollect another instance, in which, after exploring the vagina and uterus of a case of puerperal septicæmia, I waited upon a lying-in-woman less than twenty hours subseqently. The only precautionary measures adopted before going to these cases of labor consisted in thoroughly washing the hands and cleaning the nails. During the time of my attendance upon a third case of septicæmia, it so happened that I had charge of three cases of midwifery, but in this case no vaginal examination was made.

I am well aware that from the few examples cited as having occurred in my own practice, it is not safe to pronounce against the contagiousness of the malady. That observer also deserves ridicule who denies the possibility of a disease being contagious merely because it is contrary to his own experience. The fallacy of such logic is at once apparent. Many observers, in whose judgment I place very great reliance, have reported cases in which the malady seems to have been communicated by infection. We know that all diseases which are contagious, in the ordinary meaning of the term, are liable to become epidemic. If then puerperal septicæmia is so highly contagious as some represent, why are not large numbers of puerperal and lying-in-women attacked at or about the same time? In other words, why does it not often become epidemic? On the contrary a study of the literature of the affection confirms the statement of Barnes, who says, "septicæmia generally begins and ends in the patient attacked."

I do not believe that women in the pregnant or parturient state *catch* the disease from each other in the sense that they contract measles, scarlatina, and hooping cough, for example. But I *do* believe that the puerperal or parturient woman may be infected with the disease by *direct* contact of the poison of decomposing animal matter. I believe that it may be communicated by the transplanting, so to speak, of the specific virus or septic poison (which I think has been proven to be a fixed body) in a manner analagous to that by which syphilitic and vaccine virus may be introduced into the circulation. Whenever the poison has been isolated it has been found to be a fixed body, and *not* volatile. The crystalline salt, *sepsin*, has already been referred to in this connection.

Returning to the question of infection, I will state that I believe the hand is the agent most likely to carry the poison. After examining the vagina of a septicæmic patient, after performiug an autopsy or dressing a phlegmonous wound, or after some similar service, enough of the toxic element may remain for an indefinite time in contact with the hand to communicate the disease to a puerperal woman. This may possibly occur, though free ablution be practiced, for it seems that the epidermis of the hand may become so thoroughly imbued with the poison, that a considerable interval of time is necessary to rid it of the infecting element. It is not known definitely how long a period is required for this purpose. Doubtless it varies in different cases according to the amount and virulence of the toxic principle, the means that are adopted to disinfect the hands, and in proportion to other circumstances obvious to any one who will give attention to the subject. In some cases all traces of the poison may be removed within a few hours, while in others weeks or months must elapse before it would be safe for the accoucheur to make a vaginal examination of a woman in pregnancy. And again, there is probably a predisposition on the part of certain women during the parturient or puerperal state to receive the infection, while others it may be almost impossible to infect. It may therefore happen that an obstetrician, after attending a case of puerperal septicæmia, may attend several cases of labor without any untoward result, and yet during all that interval be carrying the infection, as shown by the development of the disease in a subsequent case; perhaps the sixth and seventh from the original whence the septic poison was primarily derived. Such cases have been recorded by trust worthy observers, and the only apparently reasonable explanation that can be offered is the difference in the susceptibility among women to the poison. We all know that there is a marked difference in the susceptibility to certain diseases, contagious and non-contagious, that obtains among particular individuals. So great indeed is this difference, that there are persons who enjoy an absolute immunity from special maladies to which their less fortunate fellow-men are liable. Applying this truth to the case under consideration, we have a fair explanation of the reason why puerperal septicæmia is sometimes encountered several removes from the patient who furnished the infection.

As to the cause of the difference in the susceptibility to the toxic principle, to which reference has been made, it is not my purpose to theorize. And indeed it would be almost a fruitless task, for very little is definitely known upon the general subject of difference in susceptibility to certain diseases.

Referring again to the hand as the means by which the septic matter is most frequently conveyed from the septicæmic patient to the healthy parturient woman, I will state that it is particularly liable to gain entrance into the circulation of the latter if it come in contact with a surface abraded, excoriated or fissured. Indeed, as has been stated in another part of this paper, it is exceedingly probable that the poisonous element may be even absorbed through the intact mucous membrane, when coming in direct contact therewith. It is in this way that I believe the disease is occasionally communicated from one person to another, and *not* by the breath of the patient, or the effluvia from the body, which, mixing with the respired air, constitute the medium through which most contagious disorders may be spread. I cannot conceive any circumstances under which the emanations from the patient can become so concentrated as to excite the disease in another through either the respiratory or digestive apparatus, and in every instance in which it is claimed that the contagion has been so introduced it is probable, if the case be not sporadic, that greater scrutiny would discover that the bedding, bed-pan, syringe, clothing, the hand, or some article or substance becoming infected by direct contact with the *materies morbi* had been the efficient means of conveying the poison.

This view is in conformity with the result of the experiments before alluded to of Bergmann and others, with that one of the toxic elements known as sepsin, which they found to be *non-volatile*, very diffusible, and that fluids formed the medium through which it primarily acted upon the human organism. Confirmatory of this idea are also the already quoted deductions of Feltz, who, from his practical investigations, showed that the infecting agent cannot be of a gaseous nature. The fibrinous poison of Bergmann, the albumenoid body of Hemmer, the poison described by Zuelzer and Sonnenschein, are all fixed bodies, and non-volatile. Hence, since it is not a gas, and not volatile, it is therefore incapable of poisoning the atmosphere about the patient and becoming contagious in the popular acceptation of that term, which signifies, at least among the laity, that such disease is propagated by medium of the air infected with miasmata from the bodies of the sick.

It is not denied, however, that a small proportion of these toxic bodies may sometimes mingle with the air, and that the quantity suspended in that fluid may be considerably augmented by various conditions, such as the crowding together of a number of septicæmic patients; but it is not believed that the atmosphere ever holds them in sufficient amount or concentration to re-excite the disease in another. It has been argued by some, that putrid poisons infecting the air are likely to penetrate the genital organs of the parturient woman, and thereby enter the circulation through the mucous lining of those organs. But it is fair to assume, that so small a proportion of animal miasms as become suspended in the air is insufficient to excite an appreciable degree of blood-poisoning through the channel indicated; besides, air does not always enter the vaginal canal during natural labor. Could it be proven that any of the known infecting elements are capable of being converted into a gas or vapor, then I would be prepared to admit that septicæmia is communicable through the medium of the air. But, as has already been stated, none of them are susceptible of volatilization. Or had it ever been shown conclusively by experiment that the toxic elements may be conveyed by *the atmosphere alone*, in sufficient quantity or intensity, to communicate the disease, then I would admit the doctrine of its indirect contagion. But so far as is known, this has never been experimentally proven, and therefore neither theory nor experiment favors the doctrine of its contagion through an atmospheric medium.

The celerity with which death usually follows an attack of the virulent form of this malady is indeed astonishing. Often it kills almost as quickly as aproplexy. It is especially fatal when associated with pyæmia. As to the relative frequency of the two affection, the puerperal form of septicæmia is much more common than puerperal pyæmia. It is remarkable too how rapidly it is sometimes developed after parturition. Peaslee's minimum limit for its development is 48 hours. D'Espine records one case in which the toxæmia was manifested in 24 hours, and two others in which it was fully developed during the first day. A fatal case has been reported by Dr. Hayes, of King's College Hospital, in which the attack occurred next day after delivery. Winckel also reports cases occurring in less than 24 hours *post partum*. And these observations correspond with the statement of Billroth, who asserts that the disease may begin the very day of the lesion. In a report of two cases by Thomas, the shortest period of incubation was 27 hours. In the first of my own cases reported in this paper the patient at 2½ hours *post partum* was found with every symptom of virulent septicæmia, and yet, as has been stated in the report of that case, neither the resident physician nor myself observed anything abnormal in her condition during her short labor. Whether in that instance the infecting poison was introduced into the circulation prior to, during, or immediately subsequent to, parturition, or whether indeed it may not have been auto-geneal, are queries more easily propounded than solved. If it be true, as is mantained in this article, that septic poisoning may manifest itself *ante partum*, then it is of course unnecessary to inquire as to the earliest period at which it may be developed *post partum*. It may be stated, however, in conclusion upon this point, that the large majority of cases of puerperal septic poisoning take place from 24 to 72 hours after delivery, although it may be delayed till the ninth or tenth day.

Puerperal septicæmia is said to happen more frequently in the primipira than in the multipira, and this seems probable when we consider that labor generally lasts longer in the former than in the latter, and that the primipira is for this, and other obvious reasons, more likely to suffer lesions than the woman who has already borne children. The season of the year, too, seems to have a slight influence upon its frequency, as more cases have been recorded as occurring in winter than summer. In this fact some have discovered an argument in favor of its contagion.

By many observers it has been claimed that septicæmia is most likely to follow wounds of the soft tissues; and if this be true then the parturient woman is pre-eminently liable to its attack.

So many symptoms of this disorder have been enumerated when giving its differential diagnosis from pyæmia, that but few remain to be here noted. Those which have been named before will not be referred to again farther than possible. Early in the disease the patient is indifferent and apathetic, next she becomes agitated and then delirious, though the delirium is not generally violent. Rarely there is maniacal excitement. Vomiting within a few hours becomes severe; thirst is urgent, but she is too indifferent to call for drink. The pulse is weak and rapid though the patient does not complain of prostration. In the early stages perspirations are often exceedingly profuse, but later the skin grows parched and dry. Pain is not complained of, the sensibility being deadened by the action of the poison, and hence the presence of co-existing peritonitis or metritis may escape detection, unless special endeavor be made to unmask the inflammation. There is dyspnœa, altered facies, and a deranged condition of the digestive canal, frequently causing or accompanied by diarrhea. Most authors state that diarrhea is a very prominent symptom, but I have found it so in only one of seven cases I have treated. A few lay special stress upon the odor of the breath, claiming that it is almost always sweat in septicæmia, but others regard the "sweet breath" as of little or no diagnostic value. I have not detected this odor in the cases I have seen. The fever is often very intense, but many cases run their course with but little febrile action. Some writers ignore these milder cases, but it seems to me they are as truly septicæmic as the more violent, aud that they may properly be classed as septicæmia simplex or incipiens. The great fluctuations of temperature which a few represent as common in this disease were not present in my cases. Should I find them in a given case I would suspect it to be pyæmia, rather than the affection we are considering. Infrequently a delusive subsidence of all the symptoms may take place for a few hours, at the end of which time they return again in all their severity. Sometimes the temperature subsides as death approaches, though ordinarily it continues high, and there may be indeed, as has been observed, an actual increase in the heat of the body *post mortem.*

In reference to the treatment of the puerperal form of septicæmia it may be premised that there is no specific; and of the virulent type particularly it may be remarked that there are no medicinal remedies known whose use is attended with much success. The milder grades of the disease, however, will usually terminate favorably without therapeutical interference.

Prophylaxis should never be neglected, and is more easily effected here than in pyæmia. Prompt and perfect contraction of the uterus should be secured at the close of delivery, that clots and all *debris* may as far as possible be expelled from its cavity. We should endeavor to prevent the decomposition of sound tissues by mantaining their vitality, and place the patient under the most favorable hygienic conditions attainable. When it is possible to treat topically the local lesion, means should be adopted to "prevent the exposure of tissues devitalized to the action of infusoria or animal germs, the agents of putrefaction."

All possible sources of the poison should be removed, and when these consist of decomposing retained substances within the uterus or vaginal canal, brilliant results often follow intra-uterine and vaginal injections of weak solutions of carbolic acid, permanganate of potash, tincture of iodine or other antiseptics. Renewal of the infection is thereby often rendered impossible, and if the case be one complicated by endometritis, intra-uterine injections are said to be especially serviceable.

Up to this point all authorities agree in regard to the management of this disorder, but when we come to inquire respecting its purely therapeutic treatment we find a wide difference of opinion. One class, prominent among whom are Morton and Hervieux, extol the eliminative method, believing that the system can by this process be best relieved of the poison and its effects. For this purpose they give cathartics, (if diarrhea be not present), and Hervieux even goes so far as to prescribe in certain cases depletion and blistering. On the contrary, American practitioners, under the leadership principally of Barker, hold to the antipyretic and stimulant plan, giving very large doses of quinine in the early stage especially, and resorting to the use of alcohol at a comparatively early period. I am inclined to the latter mode, although I think it is better to combine with it an occasional aperient, if the bowels are not already pretty well relaxed. I certainly would never purge my patient so freely as has been recommended in certain quarters. Severe diarrhea should not be arrested completely, though it is always proper to control it to a moderate extent

Opium it given at all should be used with great circumspection. I am satisfied that I have been inclined to prescribe it too freely. The use of this drug, however, with the large doses of quinine which have to be given, often neutralizes to some extent the unpleasant head symptoms caused by the latter, besides supporting the action of the heart against the depressing influence of the antipyretic. But small doses better than large will accomplish these purposes.

The sulphites and hyposulphites have been used with asserted advantage. Carbolic acid and other anti-fermentatives have their advocates, but I am satisfied that no disinfectants can be intoduced into the system in sufficient quantity to interfere appreciably with the poison.

Complications of the affection must receive much attention, since they occur so very frequently as to constitute the rule, uncomplicated puerperal septicæmia being the exception. Some of these complications, notably peritonitis, are often the result of the general blood-poisoning, and *not* an extension of the disease by continuity of structure. This is a fact not to be forgotton in their treatment

The vital powers must be sustained by nourishing food and favorable hygienic conditions. No depressing or depletory plan of treatment should be attempted. As soon as the more violent symptoms have begun to subside we should resort to the use of tonics, especially iron and chlorate of potassa, and continue them during convalescence. Their earlier use, however, would not be appropriate, as the first object to be effected is the reduction of the septic matter in the blood to the smallest amount possible.

In the discussion of this subject I have endeavored to give a tolerably full outline of all that is known or that has been advanced concerning it; and upon certain controverted points, and upon points that admit of variable interpretation, I have not failed to express my own views as well as those of others. The names of many have been omitted who have contributed information of value, but the expressions of such have been mainly confirmatory of the opinions and teachings of others preceding them, credit as far as possible having been given to the original investigators.

HISTOLOGY OF EPITHELIAL NEW-FORMATIONS.

By WM. C. DABNEY, M. D., Charlottesville, Va.

No part of pathological histology has of late years received so much attention as the subject of epithelial new-formations, or, as they are more generally called, *cancers*. The impropriety of this latter name has frequently been marked, but it still remains in general use.

For a time it was supposed that cancers were composed of cells peculiar to them, and it was thought that it would be easy to determine, or microscopic examination of a morbid growth or its juice, whether it was cancerous or not. It was soon found, however, that the cells of cancer were in no way different from other epithelial cells, and hence the idea of diagnosing a cancer by the examination of individual cells, of which it was, in great part, composed, had to be abandoned.

More recently, pathologists have observed that, as a general rule, in so-called epithelial cancers, the cells have a peculiar nest-like arrangement at certain points, and the majority of recent writers seem to think these "nests" characteristic of the form of morbid growth. Especially is this the case with the German school of pathologists. Rindfleisch (*Pathological Histology*, p. 175) says: "The arrangement of the epithelial cells upon the cross sections of the projections is characteristic. *** One remarks everywhere a tendency to concentric stratification."

Billroth, while not stating positively that he considers the epidermic globes characteristic of cancer, yet implies that such is his opinion. He says: "Subsequently changes take place in these epithelial tubes; groups of cells unite and form globules, which gradually grow by the deposit of new cells in the form of flat epithelium, and thus from the cabbage-like, compound epidermis globules (globules epidermiques, cancroid globules, epithelial pearls), which so much excited the astonishment of the first person who examined them." (*Surgical Pathology*, p. 631.)

Green (*Pathology and Morbid Anatomy*, p. 160,) speaks of them as the concentric globes or epithelial nests, which are so characteristic of epithelioma. I have not had access to the works of Wilks, and Moxon, and Wagner, and consequently do not know what views are held by these eminent pathologists, whose books have recently appeared.

Dr. J. J. Woodward, of Washington, in his admirable "Toner Lecture" on the *Structure of Cancerous New-Formations*, pays most attention to the mode of growth of these tumors, and does not state definitely whether he considers the epithelial "nests" characteristic of cancer.

Gross (*System of Surgery*, vol. i, p. 261) speaks of this arrangement as very characteristic of, but not entirely peculiar to, this form of carcinoma (epithelioma).

Ashurst (*Principles and Practice of Surgery*, pp. 491–492) mentions as one ofthe "characteristic structures of epitheliomata," laminated capsules or nests, or epidermic, or concentric globes, consisting of concentric layers of epithelial scales containing in the central space granular or oily matter cells or free nuclei, and apparently resulting from a continuation of the process of endogenous cell formation.

Erichsen, while he describes these nests with accuracy, states at the same time that a false nest is frequently observed in papillary and granular growths. There is, however, he thinks, a total difference in the mode of development in the two cases. In epithelioma the nests are formed by the central proliferation of the cells, and the pushing off of the surrounding cells; while in the papillary and glandular tumors the arrangement is due to the development of cells in limited spaces, and consequent concentric pressure.

Paget, although he does not state their mode of formation, says that these nests may be found in papillary growths.

There can be no doubt that the great majority of physicians engaged in general practice, who use the microscope at all, look upon the nest-like arrangement of epithelial cells as characteristic of cancer, and generally of the "epithelial" variety, so-called. This is the teaching, as we have seen, of those works on pathological histology which are most used in this country, and such were the views which I had been led to adopt in consequence, till a few months ago, when, on examination of an ordinary wart removed from the penis, I found a nest of cells, which I could in no way distinguish from those known to occur so commonly in epithelial cancer.

The little growth was about the size of a large English pea, and was attached to the prepuce by a broad pedicle. On removing it, and making a section parallel with the little papilla of which it seemed to consist, I found it to be composed of epithelial cells, which had, in most parts of the section, no definite arrangement, but at quite a number of points they were arranged in nests which were composed generally of flattened cells on the outside, with globular ones in the centre, while beyond the limits of these nest-like arrangements the cells were of irregular shape, and had, as previously stated, no definite arrangement. The whole tumor seemed to be composed of cells, and there were no cylinders to be found—it being, in this respect, entirely unlike the generality of epithelial cancers.

A careful examination of a number of sections taken from this papillary new-formation, and a comparison instituted between them and sections from an epithelial cancer of the lip, has not enabled me to observe any difference in the structure of the "nests" in the two growths; and the chief difference, so far as I could determine, was the absence of the "cylinders" so frequently found in epithelioma.—*Va. Med. Monthly.*

PARALYSIS OF THE THIRD NERVE WITH DIVERGENT STRABISMUS.

By W. R. Amick, M. D., Cincinnati, Ohio.

Wm. L., æt. 36, barber, Race st., presented himself on the 23d of September for some trouble in his right eye. Stated that he never had had any ophthalmic trouble. About twelve years ago he had a small veneral sore on the prepuce, but soon after noticing, and before it attained any size, was circumcised, the incision healing in a few days. Since that time he has had no eruptive, alopecia, sore throat, or any thing to indicate a specific virus in his system. About two years and a half ago he had a paralysis of the ring and little fingers of the right hand. This was preceded for a few days by a slight dull headache. He went to bed feeling as comfortable as usual, and awoke in the morning with the paralysis. The portion thus affected was bound by a line running through the centre of the hand, between the second and third metacarpal to the carpal bones, and then outward on the ulnar side. Said this portion of the hand felt as if some person was sticking it with an immense number of needles. Sensation was not entirely lost, but could not make any voluntary movements. About the only treatment used was magneto electricity, the trouble disappearing in twelve or fifteen days. He has not had any trouble of the kind since that time. Is not intemperate in his habits, and only a moderate smoker. Does not chew tobacco.

Two weeks ago he began to have a dull heavy headache, something similar to that preceding the attack of paralysis. The pain was not localized or confined to one side of the head, but extended entirely through the anterior inferior portion of the brain. Did not have any pain in the suprafrontal or occipital regions. The headache made him feel stupid, and his eyes felt "heavy." He was troubled with dizziness and a swinning sensation in the head, so that at times he could scarely stand, but the moment that he would close the right eye this condition would pass away. By keeping the right eye closed he had no trouble in pursuing his occupation, with the exception that vision, even in the left eye, was not as good as formerly.

He could walk around the room or along the street and felt no discomfort. Gas light pained the right eye at this time. As soon as he attempted to use both eyes the dizzy sensation would return. When asked to close the left eye and walk he reeled and staggered, catching on the door to prevent falling. He could stand still with the left eye closed, but the moment that he began to move, that moment he began to stagger and fall obliquely to the right, three or four steps being the most that he could take without falling. When he gazed at an object directly in front of him on a horizontal plane with the eyes, he did so by fixing with the left, the right eye being turned outwards about two and one half lines, and downwards one line. He was troubled with diplopia, the distance between the objects depending on their distance from him, and the position of his head. Directly in front of him at a distance of twelve feet, the objects were about seven feet a part, the one on the left being about three feet higher than the one on the right. It was sometime before the patient could be made to realize the fact that the images were crossed, and that the pseudo-image on the left disappeared when the right eye was covered. By turning his head to the left the objects approached each other, but he could not get them nearer than two feet. Turning his head towards the right increased the distance between the objects. All of the movements of the right eye were more or less impaired. He could move it but very slightly to the left of the median line. Movements upwards and downwards were limited to about one line and a half, being greatest downwards. Movement outwards was the least impaired, yet when directed to look to the left and then to the right, the movement of the left eye over the right half of the arc of mobility was more rapid than the right one over the same arc. When using both eyes vision was best with the head bent forward and inclined to the left. The lower border of the right upper eyelid hung down to the lower margin of the pupil. It required an extra exertion to elevate it, and then it only moved upward about half way as compared with its opposite fellow. The anterior chambers were shallower than normal. The pupils were small, not larger than a pin's head, the right being the smallest, the irides would not respond to light. First used light from the windows, alternately covering and uncovering the eye. He was then placed in a dark room and reflected artificial light used, but there was no response. There was no inflammation of any portion of the eye that could be seen. The tension of both eyes was considerably increased, the right being most marked. Pressure in the ciliary region of the right eye produced pain. Vision in the right eye was 12-70, in the left 12-40. There was a slight contraction in the right field of vision of the right eye. An ophthalmoscopic examination was made, or rather attempted, with negative results, not even the disk being seen. Supposing the difficulty due to the smallest of the pupil, a few drops of atropine was placed in the right eye. The pupil dilated very lowly, but in the course of half an hour was sufficient for an examination to be made. Nothing could be seen but the disk, which appeared like a pale blurred spot. Tapping on the head with the ends of the fingers did not produce any increase of pain at one point more than at another. There was no pain produced by moderate pressure on the anterior part of the eye, neither was there any marked tendency to exophthalmos.

The treatment was partly empirical and partly based upon the supposition that whatever caused the first attack of paralysis also caused the present trouble, and that they were both due to a specific virus in the system. We can only account for that by saying that the sore on the prepuce was a chancre, and accepting the theory that the system is contaminated before there are any local manifestations, so that excision, while it would remove the local sore, would not eradicate the disease—and it had remained latent until the time when the fingers were paralyzed. We gave him strychnia, ferruginous and bark tonics, with iodide of potassium and bichloride of mercury. To prevent the dizziness he wore a shade over the right eye. At the end of four weeks there was a marked improvement. All of the movements of the eye, except inwards, were greatly increased. The lid did not droop so much, but when the shade was removed he kept the eye closed voluntary to prevent dizziness. The intra occular pressure was normal, and he could read number twelve at twelve feet, and number one at twelve inches with either eye. The iris would now respond to light but not very promptly. On examining the eye with the ophthalmoscope the disk was found to be slightly cupped and hyperæmic. The arteries were normal, two of the veins in the right eye were slightly tortuous. The diplopia was as marked as ever, but objects seemed to be nearly on a horizontal plane, the obliquity of the eye being nearly overcome. The same treatment was continued for the next two weeks. Having a slight catarrh of the palpebral conjunctiva a two grain solution of arg. nit. was used once daily. The movements upwards, downwards and outwards were still more improved, but inwards it was limited to a slight distance internal to the median line. The dizziness, on using both eyes, was slight, yet he would reel in his gait when he attempted to walk with the left eye closed. He could not walk to an object and put his hand directly on it, but would put it a little above and to the left. Treatment was now discontinued, and a week later there was a slight increase in the amount of divergence. A prismatic glass of 18° brought the objects within about two inches of each other, at a distance of twelve inches from the face. To prevent the increasing divergence, and at the same time to overcome, if possible, the annoying diplopia, as well as for the cosmetic effect, an operation was performed on Nov. 12th. The tendon of the external rectus of the right eye was divided sub-conjunctivally. There was no anæsthetic used. The immediate effect was the overcoming of the diplopia to within about 8° of the median line. What the result will prove to be I cannot say at present.

Since writing the above we learn from the patient that he has been troubled with diplopia, at different times, since the first attack of paralysis. States that occasionally he has a "bilious" attack followed with nausea and sometimes vomiting. At such times he would see double probably for fifteen minutes. Then by rubbing his eye for a few moments the diplopia would disappear.

To us this has been an interesting case. Why should we have a contraction of the iris in a paralysis of the third nerve? The iris has two sets of muscular fibres, the circular and the radiating. The circular fibres or contractors are supplied with motion by the third pair of nerves, or motores occulorum. The radiating fibres are supplied by the sympathetic. If then we have a paralysis of the third nerve we would naturally suppose that the radiating fibres would contract and produce a dilatation of the pupil, yet the reverse was the case with our patient. As stated before, the pupil was not larger than a pin's head and did not respond to light. The headache and paralysis together with occasional nausea and vomiting would seem to indicate that this man's trouble was located in the brain, not in the gray matter, for the mind was unaffected. He remembers dates, and names, and has no trouble in recalling incidents that happened years ago. As his hearing and taste are normal, as he protrudes his tongue in a straight line, as there is no difference in the muscular movements in the two sides of the face in talking and laughing, it would be difficult for us to account for the trouble by a tumor at the base, unless it were small and located along the course of the nerve, anterior to the crus cerebri. In diseases of the crus cerebri there is frequently paralysis of the third nerve, combined with paralysis of the opposite extremities (Ducheck). But we have no impairment in the motor functions of the extremities, so that the trouble must be anterior to the crura, and no doubt was a syphilitic node or neuromata lying along the course of and pressing upon the nerve.

SPINDLE-CELLED SARCOMA OF OMENTUM.

By P. M. Braidwood, M. D., Birkenhead.

The interest of the following case depends in part on the absence during life of characteristic symptoms and signs, and in part on the rarity of the pathological lesions discovered after death.

Miss P., aged 46, stated that she never (as far as her memory went) had required medical advice till she summond me on Feb. 7th. During last summer she felt she required change of air, and went to the country for some weeks; but, with this exception, she never complained of ill health till a day or two before I saw her. When visited, I found her very emaciated, but her sister said she had always been extremely thin. She complained of "wandering" pains in the abdomen, not very acute, and descrbed as shooting through to the back. Her pulse was rapid and wiry; her temperature was not very high; she had not an anxious look. During the course of the three weeks I attended her, till the death on February 27th, the principle symptoms she presented were—irregular action of the bowels; very red, but not dry tongue; considerable thirst; rapid, very weak, and wiry pulse; gradually increasing debility; sleeplessness; vomiting of brownish acid fluid, which changed shortly before death to dark grumous fluid; and, on palpitation of the abdomen, pain (but not extreme) was felt, and a round tumor, not movable, was detected in the umbilical region. She sank gradually, seemingly from inanition.

Necropsy.—About forty hours after death the abdomen was examined. On opening this cavity, its walls were felt firmly adherent, by old and recent lymph, to the subjacent viscera. A thick layer of new material, in part inflammatory, was seen to cover the entire surface, and to mat together the various coils of the intestine, the stomach, and liver; at the sides and posteriorly, the various viscera were found to be free. This thick layer, on section, presented the naked eye appearance of cancerous omentum. There was a considerable amount of serum in the abdominal cavity. On separating this cancerous mass from the liver, some greenish pus was squeezed out of the gall-bladder, and, as it flowed, it floated out certain hard dark bodies, which proved to be biliary calculi. Having removed with care the gall-bladder and common bile-duct, these were seen to be greatly distended of biliary calculi, which were embedded in pouches formed by lymph in the anterior of these cavities, and were surrounded by greenish fœtid pus. Altogether, there were found about two hundred biliary calculi, varying in weight from fifty grains to three or four grains, and most of them beautifully facetted. The hepatic tissue was firm and anæmic, and the hepatic capsule was thickened. The kidneys, uterus, spleen and other organs were healthy. A portion of the omentum, prepared by Messrs. A. C. Cole & Son, of Liverpool, for microscopical examination, showed the tissue to be transformed into spindle-celled sarcoma.

REMARKS.—Modern pathology has given birth to no offspring which has proved more attractive to the students of pathological histology, than is the group of neoplasiæ included under the generic term sarcomata From Virchow, the pioneer in the study of tumors, to the youngest contributor in our weekly medical journals, all have striven to describe an uniformity in the features, both of the true children and of the bastards, as well as a consanguinity of appearance between that tumor (sarcoma), "consisting of tissues belonging to the developmental series of connective tissue substances," which do "not go on to the formation of a perfect tissue, but to peculiar degenerations of the developmental forms;" and that other class (cancerous or malignant tumors) whose clinical history is coeval with that of pathology.

Of all the six varities into which Billroth (*Surgical Pathology and Therapeutics*, 1874) divides sarcomatous tumors, the spindle-celled is the least likely to be found affecting the omentum. That eminent pathologist states that "spindle-celled sarcoma is composed of closely packed, usually thin, elongated spindle-cells, so-called filament cells, *i. e.*, a fibrous tissue, whose development has not advanced beyond the produclion of spindle-cells." He, moreover, states of this class of growths, that they are generally encapsuled, that they rarely occur on free surfaces, that their more ordinary seat is the muscles, fasciæ and cutis. They develop generally in persons strong and well nourished, often in particulary healthy and fat persons. In the case narrated it will be observed that, on the contrary, spindle-celled sarcoma affected a free surface; was not encapsuled; infiltrated a tissue more cellular than fibrous in its developmental homology; and that the patient, though she seems to have failed much, yet did not enjoy robust health, and was in fact very emaciated.

I have searched in vain to discover in books or journals an analogous case, either as regards the peculiar pathological lesion which occasioned death, or as regards the very large number of biliary calculi found after death, and which appear to have accumulated without occasioning any marked disturbance.—*British Med. Jour.*

RESULTS OF THE ARCTIC EXPEDITION.

The expedition which left England, May 29, 1875, to discover either a north-west passage or an open polar sea, fitted out for a five years' cruise under the command of Captains Nares and Stephenson, returned after an absence of only eighteen months. The following brief account of what it accomplished is taken from the *Cincinnati Daily Commercial* of Nov. 16:

Although the intrepid seamen, like Moses of old on Mt. Pisgah, climbed the mountans of ice and gazed into the promised land; althougt four of the crew found that land to be truly "an undiscovered country whence no traveler returns;" although unsuccessful so far as the main purpose of the expedition, yet their work has been a good one, for they have penetrated and taken observations 1½ degree nearer the Pole than man has ever done before; they have encountered a longer polar night, endured a greater degree of cold than ever before registered; have actually put to rest the long mooted question of an open polar sea, and found that there is a portion of the human globe where life can not exist.

Suggestive, rich and novel are many of the discoveries, and for many a day science will have ample room for reflection and theory. Not to ice and icebergs do the discoveries alone pertain, but it seems as if some grand old romance lay buried beneath their icy grandeur. What a field for specultion and theory to the *savant* is laid open in the discovery of a seam of coal, in a latitude of 82°, twenty-five feet in thickness, and nearly as fine as the finest coal of Wales. At some remote period grand old forests must have stood where now is a desolate waste of icy mountains. That these wastes teemed with animal life is shown by the fact that fossil coral was discovered New specimens of fauna and flora were brought back by Captain Fielden and Mr. Hart. The musk ox was found in a higher latitude than it was supposed he could exist, and the young of the bird called the knot were found in regions of ice and snow, while trout and salmon were plentifully caught. Yet a point was reached were neither the hardy Esquimaux nor the fleet reindeer could exist; in fact, a point where there was no more land. The highest degree of latitude North attained was 83° 20′ 26″, and here was planted the British flag, within four hundred miles of the Pole. The explorers endured darkness for one hundred and forty-two days, with the mercury frozen for one-third of the time, and thirteen consecutive days of such extreme cold that the thermometer registered 104 degrees below freezing point. They found that the migration of birds ceased south of Cape Columbia, and were unable to explore the American coast west of Grant Land, and the Greenland coast from the opposite promontory.

In geography the discoveries are important, although contradicting some of the previously entertained opinions. Instead of land extending far towards the north, as reported by the Polaris, Robeson Channel opens directly into the sea. The open polar sea which Dr. Kane believed his companion, Morton, had seen in 1854, and the land seen by the last American expedition, and named President's Land, do not exist. We learn that Lady Franklin Sound is terminated sixty-five miles from the mouth of Smith's Sound with lofty mountains. Peterman's Fiord and Franklin Strait are bays, and nothing more, the former ending in a low glacier. Grant Land is on the borders of a polar sea, and not the beginning of a continuous coast to the north. The entire coast line of Smith's Sound was explored from north to south, with the exception of Hayes' Sound, which was found to be full of small isles, and leading nowhere.

In fine, they have traced the end of Greenland on the one hand, and Columbia on the other, and discovered, instead of a polar sea, as Sir John Franklin, Dr. Kane, Parry, and others theorized, a region where the existence of animal life is a myth—that knows no sound other than the cracking of ice and the howling thunders of wintery winds. This region they named "The Sea of Ancient Ice," "the Polæocristic or Polæocruic Sea." Here were mountains upon mountains of ice, Ossa upon Pelion in dire confusion. They made progress at the rate of a mile and a quarter per day, and that, too, in an air that cut like knives. The ice was from eighty to one hundred and twenty feet in thickness, and floating with its surface at lowest part fifteen feet above water line, yet the water was only seventy-two fathoms deep at this degree of latitude.

Thus the expedition proves the futility of attempts to reach the Pole by Baffin's Bay and Smith's Sound. Perhaps, now, Arctic enthusiasts will suggest explorations along the Spitzbergen coast.

CINCINNATI COLLEGE OF MEDICINE AND SURGERY.

MEMORIES OF THE CLASS OF 1875, SPRING COURSE.

By C. S. Cope, M. D., Cope, Ohio.

The ever welcome pages of the Cincinnati Medical News have just been perused, and now the book is closed, the picture of the College attracts attention. What a train of thought is awakened by its familiar form! The time spent in its halls; the teachers and class of '75 rise before me,

> "Fond memory to her duty true,
> Brings back each absent form to view."

We hear again the teachings of the Honored Thacker, and with pleasure we call the time spent under the instructions of Davy, Underhill and Reed. The class will long remember the smiles that would illuminate the countenance of the earnest Stuntz, when some dull student comprehended a new chemical proposition. The teaching of none will be longer remembered than those of Prof. Trush, clear, concise and pointed. Through the most intricate labyrinths of obstetrical lore the class was easily led by him. The genial Miles, the impressive Amick, and Bramble, beloved by all, complete the list, a better corps of teachers, a college need not wish to have. Our memory of the class is pleasant, its songs, its jokes, its merriment, and the hard work we did.

I well remember my feelings as I approached the college each morning; high up on the wall glittered the name of the Cincinnati College of Medicine and Surgery. This to me was the "Oriflamme of Victory," and to gain that prize was every energy bent, to climb the hill of science and claim as mine a Diploma with that name thereon my only thought. What matter if a coat got ragged at the elbows, or that boarding was not such as a king might admire; what matter if the light burned low as the pages of Gross or Flint were perused; fame lit up the walls, and expectant energy on tip-toe stood, with hands out-stretched for her prize. At last it came, and on June 22, 1875, 30 students, faithful, earnest workers, received their hard won laurels. The portals of medicine through which they had gazed so long wide open spring, and as a joyous band of pilgrims entered the coveted realm, with a "good-bye" and "God bless you," our happy relations were sundered. Occasionally through the columns of our Journal we hear from some of them. These are like beams of sun light and make our office bright on dark days.

> "Are welcome as the grasp of hand
> Of brother in a foreign land."

And now in closing let me urge each and every one to exert their influence in favor of our *alma mater*, and her cherished offspring the Cincinnati Medical News, which is our now best means of communication in things medical.

Gleanings.

CHRONIC PNEUMONIA OF THE APEX IN CHILDREN—ITS EARLY SYMPTOMS.—The difficulty in recognizing this disease is well known. Dr. L. Fleischmann (*Boston Medical Journal*, August 10, 1876), gives the following important symptoms observed in teething children:

1. One-sided swelling of the lymphatic glands of the throat, back of the neck, or of the sub-maxillary region, when other local causes, such as pharyngitis, parotitis, alveolar inflammation and diphtheria can be excluded, causes strong suspicion that there is pneumonia of the apex of the same side. The glandular swelling continues while the process in the lung is active, and ceases when the lung infiltrations become stationary, the glands swelling and subsiding again with each advance of the inflammation.

2 Certain obstinate forms of conjunctivitis, which, in spite of all treatment and without apparent cause, return from time to time with great severity, if but one and always the same eye is attacked, point with great proability to disease of the lung of the same side.

3. Eczema of one-half of the face or head, which heals with difficulty and frequently occurs, sometimes alternating with, or accompanied by ophthalmia of the same side, should lead to examinations of the lungs where pneumonia of the apex of the same side is often present.

4. Certain sympathetic disturbances of one side of the face or head, having frequent changes in color, from flushing to pallor; transitory circumscribed erythema of the cheek or temple always on the same side, the easy production of Trosseau's maculæ, which also accompany meningitis, cerebral tumors and other diseases to be excluded, often indicate pneumonia of the apex of the same side.

5. Intermittent sympathetic neurosis affecting one side of the head, characterized by redness and elevation of the temperature of the skin of the affected side, are often observed in children with lung infiltration of the same side.

6. Finally, neuralgias of the trigeminus, occulo-motorius and vagus occurred and disappeared during the process in the lung of the same side in such a manner that no certain relation between the two could be determined. These symptoms were observed in so many cases that the author regards them as reliable symptoms.

NERVE OF VISION—ITS IDIOSYNCRASIES.—Dr. Beard (*Hay Fever*, page 107) gives a list of them, as follows: Some cannot bear the sight or certain anmials; a brave officer of the British navy could not endure the sight of a cat. James I., of England, could never bear the sight of a drawn sword. In one sturdy young man the presence of a cat caused cold sweating and a desire to urinate. Cows, elephants and turkeys, are made angry by the sight of any thing red. Duke D'Epernon fainted at the odor of a hare; and a lady of high degree was taken with nausea, faintness and vomiting by the smell of vinegar.

CONDITIONS FOR NORMAL DEFECATION.—In a very instructive paper, Dr. B. Lee (*Philadelphia Times*, August 19, 1876), gives these as follows:

1. Objectively a support of the proper height, with an aperture of the proper shape and dimensions.

2. Subjetively (*a*) a healthy, vigorous tone of all the muscles of the trunk, but especially of the abdominal muscles; (*b*) activity in the peristaltic action of the colon and a normal condition of its secretions; (*c*) a sensitive condition of the mucous membrane of the rectum just within the

sphincter; (*d*) a rectal cavity of normal size; and (*e*) a stout *levator ani*. These conditions may be promoted by such exercise as will tend to develop the abdominal and expiratory muscles without making a drain upon the nervous forces, by manipulations with a view to directly assist the peristalic labors of the colon, by pressure and percussion directed to the arousing of the sacral plexus to activity, and by direct support to the distended rectum and paralyzed *levator ani*. The judicious and persistent use of these means, combined with hygienic measures directed to the improvement of the general tone of the system, would go far toward breaking up the pernicious habit of medicinal cathartics.

PLEURAL EFFUSIONS—THEIR TREATMENT.—Dr. C. A. Ewald (*Centralblatt—Medical Reporter*, September 30, 1876), states that from a series of observations made in Frerich's wards with special reference to operative interference, he concludes:

1. In cases of serous effusion in the pleura, puncture should be performed before the third week only if life be in danger.
2. If puncture be made under exclusion of air and with previous disinfection of the instrument, no serous exudation becomes purulent.
3. The only means of determining with certainty whether a pleural effusion is serous or purulent is an exploratory puncture.
4. Incision with puncture should be made as early as possible into purulent exudations.
5. The mortality after incision into purulent effusions is from fifty to sixty per cent when they are treated according to the present plan (incision in the sixth intercostal space, between the nipple and the anterior axillary line, washing out with disinfectants once or twice daily, a catheter being retained in the wound, or one or more ribs resected).
6. Sanguineous effusion is always the result of malignant growths of the pleura.
7. Serous exudations do not exclude the presence of tuberculosis and cancer of the pleura.

PHYSICAL AND INTELLECTUAL QUALITIES OF MAN—THEIR MEASUREMENT.—Dr. Baxter (*Med. Statistics Provost-Marshal's Bureau*, vol. 1, p. 83,) gives as a summary of the conclusions reached by investigators in anthropometry the following: (1.) There is a perfect form or type of man, and the tendency of the race is to attain this type. (2.) The order of growth is regular towards this type. (3.) The variations from this type follow a definite law, the law of accidental causes. (4.) The line formed by these variations, when arranged in groups receding on either side of their mean, is the curve well known to mathematicians as the binomial; it was first applied by Newton and Pascal to questions of astronomy and physics, but is applicable to all the qualities of man which can be represented by numbers. (5.) The more numerous the data obtained by actual measurement, supposing them to be made with reasonable care and without bias, the more nearly accurate is the mean result, and the more closely does it correspond with that obtained by calculation.

WHEN AND WHY WERE MALE PHYSICIANS EMPLOYED AS ACCOUCHEURS?—Dr. Wm. Goodell (*American Journal Obstetrics*, August, 1876), in a very interesting paper answers the above question. It was just subseqent to the discovery of the art of printing that male physicians began to act as accoucheurs, and thus destroy the monopoly of midwifery by midwives. The reason for this change seemed to lie in the fact that the people became wiser, read more books, so that they could appreciate the ignorance of the midwives. Physicians developed with the times, the midwifes did not. The former wrote elaborate works on obstetrics, which the latter, with rare exceptions, could not even read. What more natural than that intelligent women should prefer the teacher to the inapt pupil—should place their lives in skilled hands rather than in those which were unlettered. What more inevitable than that the male physician, who was hurriedly sent for in cases of emergency, or was kept waiting in an antechamber for such emergency, should, despite tradition, prejudice and religion—should, in spite of himself, for it was long deemed dishonorable for him to practice midwifery, ultimately usurp the place of the midwife by the bedside of the woman in travail?

PUERPERAL ECLAMPSIA—FACTORS IN ITS PRODUCTION.—Dr A. Macdonald (*London Obstetrical Journal*, August, 1876) gives these factors as follows:

1. *Predisposing*—Special weakness in the nervous system, either congenital or acquired by depressing circumstances, and possibly also aggravated by impaired nutritive cerebral changes through an imperfectly depurated blood arising from diseased kidneys.

2. *Efficient*—In addition to the above, anæmia of the cerebral motor centres, induced in the manner in which Traube and Rosenstein explain its production, which is under conditions most favorable for its causation, if it does not take place only then when the blood is increased in bulk, and rendered hydræmic by the co-existence of kidney disease in some of its forms.

3. *Exceptional*—But in certain cases were no kidney disease is present, it is difficult to see how the mechanical conditions required by the above theory can be obtained, and these are naturally explained by the theory of reflex spasm of the cerebral arteries, induced by irritation traveling from the uterus contripetally to the great motor centres of the brain in the manner in which Cohen explains the origin of his eclampsia uteri matura. In this case, also, we need to predicate the existence of specially predisposing causes affecting injuriously the nervous system of the mother.

PUERPERAL ECLAMPSIA.—Dr. H. F. Campell (*American Journal Obstetrics*, August, 1876), in a very elaborate paper, reaches the following conclusions respecting puerperal eclampsia:

1. At the present time we cannot recognize either cerebral plethora, cerebral anæmia, uremia, or other toxic condition of the blood as furnishing a uniform etiology for puerperal eclampsia.
2. The proximate cause of puerperal eclampsia is *nervous irritation.*
3. To accept this to many manifest truism, is to make a certain advance in the relinquishment of the uncertain, conjectural and unknown.
4. In view of this cause, the sole indication of all treatment is to *be quiet and to subdue irritation.*
5. To meet this indication we have opium by hypodermic injection with atropia. Next to opium is blood-letting, or better, the two may be combined.
6. In regard to the bromides, to chloroform, to chloral, to quinine, to applications of ice and cold effusions, as well as to a large number of other remedies, *one common therapeutic endowment* seems, in varying degrees, to are possessed by them all; that they all, like venesection, nervous sedatives, *are subduers of nervous irritation*, and that, falling into singular coincidence by general consent, their therapeutic action, like that of venesection, is accompanied by one common physical result—that of lessening the amount of bloood in the brain.

Microscopy.

MR. CHARLES A. SPENCER'S IMMERSION, ONE-TENTH.

Very many recent microscopists, probably, have never heard of Mr. Chas. A. Spencer. These know about the fine lenses of Tolles, Zentmayer, Wales, Gundlach, Miller, Grunow, and of others of this country, and of Powell & Lealand, Beck, Ross, of England; Hartnack, of France, and other continental makers, but will be surprised on learning that there is a modest, unassuming gentleman, of Geneva, New York, who is fully capable in making objectives that are unsurpassed in their excellence. Older microscopists, however, are fullv aware of the fact, although we have found some of these who know of Spencer and his work, who were under the impression that he was dead. He is not dead, however, but living, and although somewhat advanced in years, as we have been informed, he still makes lenses of the most brilliant performance. How it is he has been in the "back ground" for a number of years we are not in a position to state. We are happy to announce, however, now, that there is a prospect of his looming up more into view, as has been evidenced by reports of some of his work published in a few recent numbers of the MEDICAL NEWS.

For several weeks we have had in our possession an immersion one-tenth, made by Mr. Spencer, marked 160° angle of aperture. In resolving power, brilliancy and sharpness of definition, flatness of field, and in all the essentials of a pre eminently *fine* glass, we have certainly never met its superior, and very few its equal. All of the most difficult tests yield to it without the slightest difficulty, and present a beauty in their resolution that excites the highest admiration. In comparing its capabilities with a number of the objectives of the most distinguished makers it certainly had the advantage.

Its focal length is quite short, and consequently requires very thin covering glass. Histologists, who are accustomed to use glasses with plenty of working room, as they term it, would regard this an objection, and would prefer the objectives of some of the English makers, which are advertised to work through "any thickness of glass covering." But such do not need a power of a tenth, for a quarter or fifth of 120° or 140°, which will afford plenty of working room, will show more than an eigth, or tenth, or twelfth, that will work through "any thickness of glass covering;" and the desired magnification can be obtained by extending the draw tube and by deep eye-piecing. Lenses, whose vaunted merits consist in the great length of their working space, are a humbug, and are made a means to swindle the ignorant. Those who desire long focal distances should purchase low powers, and obtain the desired magnification by their eye-pieces.

The 1-10th of Mr. Spencer is a little lower in power than Beck's 1-10th, but is probably nearer a true tenth than the latter. In comparing them there can be no difference of opinion in regard to its superiority.

We will mention here that a reverend gentleman is preparing a brief biography of Mr. Spencer for the MEDICAL NEW. We have no doubt this announcement will afford much pleasure to all microscopists, and to others Mr. Spencer was self taught in making lenses, only a backwoodsman in the first instance, who, without any instructions, and poor, attained to such skill in making lenses that his objectives excelled those of the most eminent masters in the art. His objectives first resolved the markings upon the diatom pleurosigma Spencerii, which received his name. Our very eminent artist, whose lenses are the admiration of the world, Mr. R. B. Tolles, was a student of Mr. Spencer.

In conclusion we will mention that Mr. Spencer has promised to become a contributor to the MEDICAL NEWS.—ED.

CENTENNIAL EXHIBITION OF MICROSCOPES.*

BOSTON, Nov. 24, 1876.

Dr J. A THACKER:

In view of what is published in the NEWS, p. 633 of the current volume, about "Centennial Exhibition of Microscopes," I wish to state that I make, and have made, no promise "*that I never will exhibit at any show.*" Also, that I will not join in disparagement of the awards of the judges while I do not share. Furthermore, the only obstacle to my competitive exhibition of instruments at the "Centennial" was my own disinclination.

Respectfully yours, R. B. TOLLES.

SAN FRANCISCO MICROSCOPICAL SOCIETY.

The regular meeting of the Microscopical Society was held this evening, with a good attendance of resident members, Vice President Hyde in the chair.

Mr J. D. Putnam, Corresponding Secretary of the Davenport (Iowa) Academy of Sciences, sent a copy of their proceedings for the years 1867 to 1876, which, though not containing much microscopical matter, was found of general interest, and, in addition to other matters, contained a large number of plates of Indian relics.

Nine numbers of *English Machanic Grevitlea* for September, and Part II. of "Mycographia seu Icones Fungorum" were received and placed on the shelves of the library.

Col. Mason Kinne donated a slide mounted by him with spicules of sponge *in situ*, which was found, on examination, to be well adapted to show the manner in which the acicular spicules were thrust through the leathery portion of the animal.

Dr. Harkness sent a slide and some leaves, as set forth in the following paper, and which goes to show that there is equity in nature at times, for the pest of the stock-raiser has its parasite as well as those plants that are cultivated to some purpose:

DR. HARKNESS' PAPER.

C. Kinne, E.q., Secretary San Francisco Microscopical Society.

DEAR SIR:—I send to dav to your address, for the Society's Cabinet, a few leaves of the *Xanthium Strumarium*, a plant well known to the stockmen under the name of "cockle burr." This plant attains a height of from two to three feet, with leaves somewhat resembling the sun-flower.

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* It will be remembered that in the November number of the MEDICAL NEWS. Mr. C. A. Stodder, who is agent of Mr. Tolles, has a communication, stating that the non-exhibition of Mr. Tolles' instruments was due to himself, and that he was influenced in his decision for certain reasons which he gives, one being, his want of confidence in the competency and honesty of the judges of the exhibition. Mr. Tolles, in his note, "goes back" on his agent.—ED.

The burr, being something over one half an inch in length, is attached to the stalk, and in the autumn is easily attached, clinging in the hair of animals to such an extent as to prove a great source of annoyance to stock-breeders.

You will observe upon the under surface of the leaves many dark-brown spots, in some instances no larger than a pin's head, in others exceeding in diameter one-fourth of an inch. They may be found at the present time in the greatest profusion throughout the valley of the Sacramento. In many localities scarce a leaf may be gathered which is free from them.

These spots are formed by the aggregated spores of *puccinia* (a coniomycetous fungus), growing parasitically upon the plant.

The accompanying mounted slide contains a section of leaf showing the brand spores, each septate, with a dark-brown investment, and attaehed by a short stalk. Mingled with these are a few sub-globose bodies with yellowish contents; these are uredo spores, indicative of one stage of development of the fungus. H. W. HARKNESS, M. D.

The regular meeting of the San Francisco Microscopical Society was held on Thursday evening, November 16th, and, in the absence of the President, Mr. Chas. W. Banks was called to the chair.

The Secretary announced the receipt of the following periodicals, viz: *American Naturalist*, CINCINNATI MEDICAL NEWS and *Nature*, and the addition to the Library by purchase of "Plain and Easy Account of British Fungi," Cooke; while the Hon. Fred. Watts, Commissioner of the Department of Agriculture, sent the October number of his report from Washington, D. C.

A further acquisition to the library was announced in the shape of one of Mr. Banks' characteristic donations of valuable books, and which received the warmest appreciation of all the members. They were seven in number, being a treatise on "Fossil Mollusks," Agassiz; "Monograph on the Echinus," Agassiz; "A Monograph of the Fresh Water Polyzoa," Allman; "The Organization of Trilobites." by Burmeister; "A Monograph of the British Annelids," two volumes, by McIntosh; "Reports and Papers on Botany," Ray Society; and "Rust, Smut, Mildew and Mold," Cooke.

To the cabinet Mr. Ewing donated a quantity of washed Richmond diatomaceous earth, and also a large lot of the raw Maryland diatomaceous earth for mounting.

The Corresponding Secretary was instructed to convey to Mr. Thomas Day the thanks of the Society for his liberality in the way of reductions made on bill of gas fixtures, and there being no written communications, the evening was devoted to the examination of Mr. Banks' donation and various objects, all of which elicited a general conversation pertaining thereto, and of matters of a kindred nature.

FAIRMOUNT MICROSCOPICAL SOCIETY.

The regular meeting of the Fairmount Microscopical Society, of Philadelphia, was held on Thursday evening, Nov. 16, 1876.

The secretary read a paper on "the Genus Æcidium," which was fully illustrated with mounted specimens. In it mention was made of the result of some investigations on the growth of æcidium spores.

Dr. Hall, a visitor, kindly showed two specimens, mounted, of aspergillus glaucus, from the human ear. One specimen had dark spores, the other light—to the former he gave the name of aspergillus glaucus *var.* nigracaus; to the latter aspergillus glaucus *var.* pubescens. He had examined over two thousand patients, and these were the only cases in which he found the fungus. The dark one was from a person of dark complexion, and the light from a fair skined person.

After the examination of the movement of the ciliæ of the oyster, and a variety of miscellaneous objects, the society adjourned.

DUNKIRK (NEW YORK) MICROSCOPICAL SOCIETY.

Special meeting, Tuesday evening, October 31., 1876, George E. Blackham, M. D., President, in the chair. Circumstances having rendered it inconvenient for the society to meet in their rooms at the City Hall, Geo. P. Isham, Esq., invited the society to meet at his residence; the invitation was accepted with thanks. The attendance of members and visitors was unusually large, and there were present by special invitation the following gentlemen: L. M. Kenyon, M. D., Henry Baethig, M. D., Henry Mills, Esq., Geo. E. Fell, Esq.

The President, after a few words of welcome to those present, introduced Prof. J. Edwards, Smith, of Ashtabula, Ohio, who proceded to read a long and highly interesting paper on "The Use and Abuse of the Microscope as an Instrument of Precision."

The paper was too long and exhaustive for justice to be done it in a summary. It is sufficient to say that Prof. Smith took a position radically opposed to many of the received ideas, and in favor of lenses of the widest angle of aperture for all kinds of work, even going so far as to express his opinion that most of the work in histology and pathology done with the so-called "working lenses" of narrow angle, would require further attention, and with wide angled objectives which recent advances of the optician have put at our command.

After the reading of the paper, the meeting was resolved into a conversazione for the examination of the various instruments, objectives and specimens which had been brought by the members of the society and their guests.

Mr. Mills, of Buffalo, exhibited a beautiful specimen of Crouch's large binocular stand and various lenses, among them an immersion No. 10, 1-16th, by Hartnack. The exhibition of the circulation in *chara* by Mr. Mills, under the binocular, with a power of 75 diameters, attracted much attention. Dr. Kenyon exhibited a Powel & Lealand 1-16th, of recent construction, with dry and immersion fronts. Mr. Fell exhibited a late immersion 1-16th by Gundlach. Prof. Smith exhibited a Zentmayer Army Hospital stand, with extra thin stage of his own design, Tolles' 1-10th and 1-6th duplex objectives of 180° air angle; Tolles' ½ and ¼ inch solid eye-pieces, amplifiers, etc.; also a microscope lamp of new construction. The flame of this lamp is only about 2½ inches above the table—kerosene oil is burned. There is no chimney, the draft being supplied by a small fan driven by clock work; the lamp burns with a perfectly steady flame of great intensity.

The President exhibited a Queen's student's stand, with three eye-pieces; Tolles' one inch objective of 30° aperture, and Tolles' 1-6th duplex immersion objective of 95° balsam angle. The following severe tests were exhibited by Prof. Smith to convince the doubting ones, of whom several were present, of the correctness of the positions assumed in his paper.

1st. *Navicula pleurosigma angulatum*, resolved into hexagons, direct light, central illumination being secured by a diaphram platte perforated with an aperture 1-200th of an inch in diameter, and accurately centered.

2nd. The transverse striæ of *amphipleura pellucida*, navicula acus—the No. 20 of the Moller *balsamed* platte, illuminated by Wenham's "Reflex." In this case direct illumination; amplification 2000 diameters.

3d. Nos. 18 and 19 of same probe platte, with same amplification and illumination.

4th. Resolution of the 19th band of Nobert's 19 band test plates. Lines 112,600 to the English inch, with ordinary oblique illumination, 75° from axis.

All of the above with Tolles' duplex four system wet 1-10th, of 1875.

5th. Resolution of the 19th band of Nobert's 19 band test plate, with Tolles' 1-6th immersion duplex, objective of 1876, B. eye-piece; amplification 540 diameters; illumination as in No. 4.

6th. Resolution of the third band of the same Nobert plate 22.500 lines to the inch, with Tolles' one inch objective of 30° aperture; ¼th inch solid eye-piece; amplifier and draw tube; amplification 740 diameters.

In view of the unusual nature of some of these tests, and the acknowledged difficulty of showing them by lamp-light, and in a crowded room; a statement that each and all had been shown, and that the resolution in each case was palpably strong and decisive, was drawn up, and has been signed by all the members of the society and their guests who were present.

Mr. Mills presented the society with a beautiful slide of *Stephanodiscus Niagara* and a quantity of living chara.

After a vote of thanks to Prof. Smith for his paper and demonstrations, and to Mr. Isham for his hospitality, the society adjourned.

TORULA CEREVISÆ IN HUMAN URINE.

Ashtabula, O.

Prof. Thacker:—I report the following for the benefit of your readers:

A few days since I received a small bottle of urine, with the request that it should be examined under the microscope. The following note was also received from the medical gentleman who has the case in charge:

"The specimen sent to-day is from a child two years old, with immense enlargement of abdomen, (24 inches around the umbilicus), encephaloid disease of left kidney being symptomed. The fresh urine is sp. gravity 1012, reaction slightly acid. Look for casts of tubuli uriniferi, and for cancer cells; the main interest is in the contained animalcules, which are in when voided."

I examined some 25 slides, prepared from the above mentioned sample, under powers from 500 to 2500 diameters. The "animalcules" referred to proved to be "Torula Cerevisæ" (Yeast plant). They were present in vast numbers, the urine literally swarmed with these minute organisms, and was in fact in a state of active fermentation.

Larger growths of fungi, with spores in situ, and also detached spores, were frequent. These could be plainly seen with a good quarter inch objective.

Crystals of ammonia phosphate (triple phosphates) were found in large numbers; the majority were of the prismatic form; the stellar crystals of the mixed phosphates were also numerous. Crystals of urate of ammonia were very plentiful, in the form of little circles grouped like three or four blood-disks in a line, and touching at the edges. This form is similar to that of the *Terulæ*, the latter being far more minute. Other forms of urates of ammonia, uric acid, urates of soda and oxalate of lime were diligently searched for, but were not found.

Pale fibrirous casts of the "Tubuli urinferi" were also present, say one or two to each mount prepared. These consist of coagulated albumen, and is a well known point to Bright's disease.

Epithelial scales from the bladder or kidney were found in large numbers, all in a state of fatty degeneration.

No trace of cancer "bird's nest" cells were discovered. I have no faith in the cancer cells of the books. J. EDWARDS SMITH.

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TRANSLATIONS.

By W. A. ROTHACKER.

THE TYPHUS (TYPHOID) EPIDEMIC IN EBERBACH.—MULLER.—(*Wurtenb. Med. Corr. Bl.*, No. 10 and 11.)

In this epidemic the cases could easily be traced to the use of impure water. In the village of Eberbach, in August, 1874, nine persons were taken sick with typhoid fever. These cases lived in five different houses. All of these persons used water from the same well, and this water proved, on examination, to be highly impure. The disease spread through the village, and it was resolved to make an examination of all the wells, seventeen in number, of these nine contained impure and unhealthy water. With these unfavorable conditions the cases increased in number until at the end of the year 171 persons had been attacked. Through the exertions of the physicians and public officers of the village the impure wells were closed, and at once the disease declined, although it was not entirely eradicated until May, 1875. The population numbered 365, of these 202, *i. e.* 55.3 per cent., suffered from the disease. Of these 202 cases 21, *i. e.* 10 per cent., died. The epidemic was severe in its character.

In significant relation with the above epidemic were the numerous cases which occurred in the neighboring villages of Buchenbach, Langenberg, Herrnthierbach, and Mittelbach. All of these villages are situated on the banks of the same stream with Eberbach, *i. e.*, the Jaxt.

In Buchenbach, having 663 inhabitants, there were 39 cases, of which two died. In the first four cases the disease was brought directly from Eberbach.

In Langenberg there were 15 cases, of which one died. This village is seven kilometres from Eberbach, and holds a lively traffic with the latter place. The first cases occurred in August, and must be attributed to a direct importation of the disease from Eberbach.

In Herrnthierbach 10 cases occurred, with one fatal result. The village is one hour's journey from Eberbach, and its inhabitants were in direct communication with the cases which occurred at Eberbach. The first case occurred in November.

Mittelbach has 92 inhabitants. Here only one family was attacked. Into this family a child sick with the fever had been brought from Eberbach. There were five cases, none fatal. It is particularly worthy of record that with the cessation of the disease at Eberbach it disappeared in the neighboring villages.—*Centralblatt*, No. 44.

THE FUNCTION OF THE FACIAL NERVE IN THE INNERVATION OF GLANDS.

The superficial arteries and veins of the face, according to M. Franck, are innervated by branches of the trigeminus and facial, together with those filaments of the sympathetic which proceed from the carotid plexus. The branches of the facial are very numerous. The nerves to the vessels of the glands of the nasal fossæ proceed either from the spheno-palatine ganglion or from the branches of this ganglion ; and M. Franck believes the secretion of the nasal mucous membrane to be in a large measure governed by the facial nerve. Passing afterwards to the study of the nerves of the salivary glands, the author gives a good resume of what is known of this subject, especially regarding the action of the chorda tympani. The secretory filaments to the parotid he thinks are derived from the facial while it is still within the cranium, and are represented by the small superficial petrosal nerve, a nerve which has the same function in reference to the parotid as the chorda tympani has on the vascularization and secretion of the sub-maxillary and sub-lingual glands. In some cases a direct communication can be established between the chorda tympani and the small superficial petrosal nerve. This communication, proceeding directly from the chorda tympani, also exists between this nerve and the great superficial petrosal, which latter nerve proceeds to the ganglion of Mekel in order afterwards to innervate the Schneiderian mucous membrane. The chorda tympani then exerts its controlling action thus : On the nasal secretion by its nasal branches (great superficial petrosal), on the secretion of the sublingual and sub-maxillary glands by its branches to these glands, on the parotid secretion by the small superficial petrosal. It would seem then that the same branch of the facial presides over all these secretions.—*Revue des Sciences Medicales*, No. 16.

SPINAL MYOSIS.—HEMPEL.—(*Archiv. f. Ophth.*, xxii. 1., p. 1. 1876.)

The contraction of the pupils in diseases of the spine has this peculiarity, that while the irritation of light will produce no reaction in the iris, the action of accommodation will at once bring about a change in the size of the pupil. In tabes dorsalis the contracted pupils are not dilated in the deepest darkness, nor are they further contracted by the brightest light, yet they are promptly contracted by looking in the distance. The author takes the view with most authors that there is a paralysis of the dilator pupillæ, (whose centre is found in the spinal cord), but he thinks besides this paralysis of the dilator there is a contraction of the sphincter, just as paralysis of the external muscles of the eye-ball will at length produce a shortening of the internal rectus. The paralysis of the dilator and contraction of the sphincter are further rendered evident by the action of atropine which produces only a moderate dilatation of the pupil, which returns much more rapidly to its condition of myosis than in the normal eye.

Futhermore, the defective accommodative power cannot be attributed to a paralysis of the center of the motor occuli. On the contrary, this centre must be intact. The absence of action in the iris on change of light is due to a break in the nervous connection between the optic nerve and the motor oculi. Where this interruption is found is not known. As in cases of spinal disease, the myosis is found, while the sight is still good, the want of reflex action in the motor occuli cannot, as a rule, be referred to a paralysis of the optic nerve, or its center.

Myosis is sometimes the first indication of spinal disease. There may be a unilateral myosis. There are cases where the re-action to light is not entirely lost.—*Schmidt's Yahrbucker, No.* 9.

CAUTERIZATION OF THE MUCOUS MEMBRANE OF THE PHARYNX IN THE TREATMENT OF AMNESIA.

M. Bitol, at the session of the Paris Academy of Sciences, on Oct. 23, 1876, detailed the good results which he had obtained in certain cephalic neuroses, by the cauterization of the posterior wall of the pharynx. The following are the principal points in his paper:

1. The brain is the seat of certain nervous affections, which are not yet localized.
2. The cranial portion of the sympathetic must have some part in these affections.
3. In these cases, the superior cervical ganglion, which is a central point, must be the starting point of the trouble.
4. The anatamo,—physiological importance of this ganglion—the brain of the animal life of the head—should be remembered, whenever the condition of the nervous system in this part is investigated.
5. This ganglion should attract particular attention when the ordinary means of treatment have failed.
6. The relation of this ganglion to the pharyngeal mucous membrane, makes the latter a favorable point for the application of irritants for an effect on the former.
7. Painting the posterior wall of the pharynx with tincture of iodine has been followed by remarkable results in essential nervous troubles.
8. In several complicated cases of amnesia the memory has regained its integrity. Has the superior cervical ganglion an influence on this faculty?—*Gazette Hebdomadaire de Med.*, *No.* 44.

REMEDY FOR INTERMITTENT FEVER.

C. Brokes (*Deutsche Zeitschr. fur prak. Heilk.* No. 33) recommends a very simple and cheap remedy for intermittent fever, which after one dose seldom requiring the second will produce a radical cure. A good handful of common salt is roasted in a new pan over a hot fire until it has the color of slightly roasted coffee. A heaping table spoonful dissolved in a glass of hot water, is taken two hours after the paroxysm in quotidian intermittent, and on the fever-free-day of the tertian type. After taking the medicine great thrist will be established. No water should be taken, or at most only a little sucked through a straw. For 48 hours afterwards no nourishment except a small quantity of soup should be allowed. It is said that this treatment is effective even in the most inveterate cases.—*Wien. Med. Woch.* No. 43.

Book Notices.

EPITOME OF SKIN DISEASES, WITH FORMULÆ FOR STUDENTS AND PRACTITIONERS. By TILBURY FOX, M. D., F. R. C. P., and T. C. FOX, B. A. (Cantab.), M. R. C. S. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. 16 mo., pp. 120.

This little work is *multum in parvo*, the best we have ever met with for students and practitioners. It epitomizes in a short compass the clinical features and the essential points in the treatment of diseases of the skin. It will be found of advantage to practitioners as a work of ready reference in daily practice; and as it can be easily carried in the pocket, the student, too, will find it convenient. It is believed that it will be of much service to him in the hospital wards, and out-patient room, in his early study of dermatology, no less than in his final preparations for the ordinary pass examinations.

On Coughs, Consumption, and Diet in Disease. By Horace Dobell, M. D., F. R. M. C. S., etc., Consulting Physician to the Royal Hospital for Diseases of the Chest, etc. Philadelphia: D. Brinton, 115 S. 7th. st. 12 mo., pp. 222. 1877.

This work will be found interesting and valuable to practitioners of medicine. It is made up of a series of extracts, so arranged that they form a connected treatise on the diagnosis and treatment of some of the most common diseases of the respiratory organs. These extracts have been drawn from the various published lectures of Dr. Horace Dobell, of London, one of the most accomplished physicians of our day, and one whose clear style, large experience, and thoroughly practical mind peculiarly fit him to be an instructor in the delicate, yet indispensable refinements of physical diagnosis.

To students and young practitioners the work will be found especially valuble for its plain instructions in diagnosis.

A Treatise on Hernia, with a New Process for its Radical Cure, and Original Contributions to Operative Surgery, and New Surgical Instruments. By Greensville Dowell, M. D., Prof. of Surgery in Texas Medical College, etc. 8 vo. pp. 205. Philadelphia: D. G. Brinton, 115 S. 7th st. 1877.

Prof. Dowell is a sound experienced writer who thoroughly understands his subject, and handles it in such a manner as to be easily understood by the reader.

The present work is upon a subject which, perhaps, more frequently than any other in surgery, demands prompt action, anatomical knowledge, and surgical skill. The number of sufferers from hernia is immensely large, and too often the knowledge of the physician is inadequate. Probably from no affection do charlatans net so rich a harvest.

Even able men have hesitated at performing operations for the radical cure of rupture, so frequently has disappointment followed the procedure. The author believes he explains one in this volume which will be found to present the minimum of risk, and to proffer a large probability of success, as the statistics given will demonstrate

A Treatise on the Theory and Practice of Medicine By John Syer Bristowe, M. D., F. R. C. P., Physician to St. Thomas' Hospital, etc. Edited with notes by James H Hutchinson, M D., Physician to Pa. Hospital. 8vo. pp. 1089. Philadelphia: Henry C. Lea. Cincinnati: R. Clarke & Co. 1876.

The works on theory and practice of medicine have been increasing in number, of late, to a considerable extent, and it is questionable if any benefit is derived by the issuing of so many. Be that as it may, however, we are always pleased when we meet with a meritorious publication, and we believe that the book of Dr. Bristowe is one of that class. Students and young practitioners especially will find it quite suitable to their wants, containing, as it does, very much in a small compass, and setting forth the essentials in a clear and easily understood style. It has been the aim of the author throughout the work to give particular prominence to the pathology, and to the clinical phenomena of the disease; and in all cases in which the clinical phenomena seem to be the direct consequences of definite lesions (especially, therefore, in the case of local diseases) his account of the morbid anatomy has been made to precede the clinical description. In discussing each subject, and more esepecially in discussing each disease, he has endeavored to give in a readable form, as much information as possible in a limited space.

We have no doubt the work will be popular, possessing the many merits it does.

Editorial.

End of Volume IX.—The present number completes the volume of the year, 1876. With the next number we begin volume X. We certainly have given our readers a large amount of reading matter during the present year—an amount which, if printed in the ordinary sized type in which medical books are printed, would cover a thousand or twelve hundred pages; making a book that would cost not less than six or eight dollars. This we have done for the small sum of two dollars. As to the quality of the *pabulum* we have served out to our readers we leave to them to judge. We believe, however, that a glance over the list of our contributors will afford pretty good assurance that the original matter was fully up to the average standard of that presented in the best medical journals; and as the selected matter was carefully culled from the journals of this country and Europe of the highest class, the authors of the articles in many instances being the most eminent of the medical and other professions, we feel quite sure that the Medical News has not come short in respect to it.

We are happy to announce to our readers that it is the purpose of the Journal Association, publishing the Medical News, Messrs. Reed, Bramble, Miles and Thacker, to considerably enlarge it, commencing with the next volume. At first each monthly number contained but thirty-two pages, afterwards sixteen pages even added, making forty-eight pages; and this has been the size of the News until the present time, Beginning with the coming January number the number of pages will be increased to *seventy-two*, an addition of *twenty-four* pages. The Association has been induced to make this enlargement in consequenee of the increasing popularity of the News. Starting out with a large circulation, the number of its readers has been constantly increasing, so that, at this time, probably, no medical journal in the United States is so extensively read. Among its subscribers are not only the most distinguished men of the medical profession, but many of the ablest scientists in other professions. Being the only medical journal in the country largely devoted to histology and general microscopy—in fact the only one of any kind that, to any extent, considers these subjects—not only do physicians take it, but learned divines, lawyers, professors, and scientists generally. An examination of our subscription book will prove it.

In enlarging the Medical News, we intend that it shall still continue to be the cheapest medical journal published, though a trifle will be added to its price. An addition of twenty-four pages will materially add to its cost—the postage alone will be made much greater, for seventy-two pages will weigh down considerably more than forty-eight pages, and we will have more to pay for paper, presswork, etc. Under the circumstances the price will be put at $2.50 instead of $2; a raise in price that will not be in proportion to the improvements.

In conclusion we will state that the conductors of the journal, Messrs. Reed, Miles, Bramble and Thacker will spare no pains to make the MEDICAL NEWS much better than it has ever been. We hope our friends will labor with us to this end.

WALSH'S PHYSICIANS' COMBINED CALL-BOOK AND TABLET is a very superior Visiting List. It is not thick and short like others, but is convenient for the pocket, and bills can be placed in it without folding at the ends. It is 7½ inches long, 4 wide, and but ⅜ of an inch thick. The plan of the book makes it good for any year, or any time in the year, and need not be thrown aside until filled. It enables the physician to write the name, *address*, and number of visits made each patient per week, on one page and line. It has an *erasible tablet* bound on the inside of the front cover for writing memoranda. Also other features.

We can commend it to our subscribers as a most admirable visiting list. It can be obtained by enclosing $1.50 to the author, No. 227 4½ st., Washington, D. C., or of Warren, of this city.

PERSONAL.—Dr. D. P. Mc. Lachlan should be addressed at Sunfield, Mich ; Dr. G. F. C. Wintermute, Lewis Centre, Delaware Co., O. ; Dr. Aaron Mullendorf, Fidelity, O. ; Dr Truman H. Cox, Oriskany Falls, Oneida Co., N. Y. ; Dr. C. F. Kapp, Manchester, Mich., instead of Ann Arbor; Dr. T. A. Hull, Essexville, Mich., instead of Belmont, Canada ; Dr. A. C. Matthias, Gilboa, O., instead of Camden, Mich.

MEDICO-LEGAL SOCIETY, N. Y.—The Medico-Legal Society met October 4, at No. 12 West Thirty-first street. Prof. Frank H. Hamilton presided. The following officers were elected for the ensuing year: For President, F. H. Hamilton, M. D.; First Vice President, Hon. George H. Yeaman; Second Vice President, Charles S. Wood, M. D.; Recording Secretary, George W. Wells, M. D.; Assistant Recording Secretary, M. N. Miller, M. D.; Corresponding Secretary, J. F. Chauveau, M. D.; Treasurer, T. S. Bahan, M. D.; Librarian, Emil Gruening, M. D.; Curator and Pathologist, John F. Dunphy, M. D.; Chemist, Prof. R. Ogden Doremus, M. D. For Trustees, Daniel S. Riddle, Esq., J. R. O'Sullivan, M. D., Thomas C. Finnel, M. D., Max F. Eller, Esq., R. R. McIlvaine, M. D., and John C. Peters, M. D.

THE Society of Medicine and Surgery, of Bordeaux, offers a prize of one thousand francs for the best essay upon the following subject, viz: Microscopical examination of human blood, both in the flesh and in the dry state, of the fœtus and the adult, as compared with the blood of other mammals, from the medico-legal point of view. The essays offered must be written in either Latin or French, and submitted to the secretary of the society not later than August 31, 1879.

WM. R. WARNER & CO., have received the Centennial award for their soluble Sugar Coated Pills. This is the third grand World's Fair prize that attests to their excellence over competition at home and abroad. R. MACREADY & CO., Agents, Cincinnati.

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CONTRIBUTORS TO VOL. IX.

AMICK, W. R., M. D., Cincinnati, O.
ALLING, C. P., ESQ., Dunkirk, N. Y.
BARNSFATHER, JAMES, M.D., Cincinnati, O.
BLITZ, A., M. D., Nashville, Tenn.
BRAMBLE, D. D., M. D., Prof. in Cin. Coll. of Med. and Surgery.
BOYLARD, G. H., M. A., M. D., Indiana.
BROWN, T. R., M. D., Prof. in Coll. of Phys. and Surg., Baltimore, Md.
BLACKHAM, GEO. E., M. D., Dunkirk, N. Y.
BEATTY, GEO. D., M. D., Baltimore, Md.
CARTER, J. M., M. D., Jackson Centre, Ohio
COX, T. H., M. D., Oriskaney Falls, N. Y.
CUTTER, S. P., M. D., Memphis, Tenn.,
DUGAS, L. A., LL. D., M. D., Prof of Surg. in Med. Coll., Georgia.
DIXON, J. N., M. D., Springfield, Ill.
DAVY, R. B., M. D., Cincinnati, O.
FLEMMING, W. L., M. D., Cincinnati, O.
FRISSELL, J., M. D., Wheeling, W. Va.
INGLIS, D., M. D., Detroit, Michigan.
KINNE, C. MASON, ESQ., San Francisco, California.
LOCKINGTON, W. N., ESQ., San Francisco, Cal.
MCELROY, Z. COLLINS, M. D., Zanesville, O.
MILES, A. J., M. D., Prof. in Cin. Coll. of Med. and Surgery.
MCINTYRE, C., M. D., Pennsylvania.
MCINTOSH, A. J., M. D., Allendale, Ill.
MCSHERRY, R., M. D., Prof. in University of Maryland.
MAYALL, jr., JOHN, ESQ., London, England.
MOREHOUSE, G. W., Wayland, N. Y.
OGLESBY, J., M. D., Pennsylvania.
PARRISH, J., M. D.
PHILOPATRIAN.
Reed, R. C. S., M. D., Prof. in Cin. Coll. of Med. and Surgery.
Reed, C. A. LEE, M. D., Wyoming, Ohio.
ROTHAKER, W. A., M. D., Cincinnati Hospital.
STUNTZ, C. R., A. M., Prof. in Cin. Coll. of Med. and Surgery.
SKENE, A. J. C., M. D., Prof. of Gynæcol. in Long Island Coll. Hospital.
SMITH, J. EDWARDS, Prof., Ashtabula, O.
STEVENSON, W. C., ESQ., Philadelphia, Pa.
SHELTON, M. E. C., MRS., Dunkirk, N. Y.
SPENCER, CHAS. A., ESQ., Geneva, N. Y.
STODDER, C. A., ESQ., Boston, Mass.
TADLOCK, A. B., M. D., Res. Phys. at White Cliff Mineral Springs.
THACKER, J. A., M. D., Prof. in Cin. Coll. Med. and Surgery.
TOLLES, R. B. ESQ., Boston, Mass.
UNDERHILL, J. W., M. D., Lecturer in Cin. Coll. of Med and Surgery.
WEEKS, O. W., M. D., Caledonia, O.
WITTKAMP, T. M., M. D., Cincinnati, O.
ZENTMAYER, J., ESQ., Philadelphia, Pa.